



Roads Service

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## **A2 SHORE ROAD GREENISLAND**

Response to Public Inquiry Inspectors'  
Report

April 2008



## Revision Schedule

### **Response to Public Inquiry Inspectors' Report** April 2008 S100532

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# 1 Introduction

## The Inspectors' Report

- 1.1 A Public Inquiry was held into the Environmental Statement, Direction Order and Vesting Order relating to the A2 Shore Road Greenisland scheme from the 8<sup>th</sup> to 16<sup>th</sup> October 2007 inclusive. A report of the Inquiry by the Inspectors B H Sleith and J Mageean dated January 2008 was submitted to the Department for Regional Development and this was passed on to Roads Service Eastern Division as promoter of the scheme. The report contains the substance of the written and oral submissions made including a brief description of the Scheme together with the Inspectors' comments, considerations and recommendations.
- 1.2 The report by the Inspectors contained a number of comments relating to oral presentations (Section 4 of the Inspectors' report) to the Inquiry that are considered to require a response. Similarly, there are comments relating to written representations (Section 6) that are considered to require a response.
- 1.3 In Section 7 Considerations of their report, the Inspectors give comment on a number of issues that clearly require clarification by the scheme promoters and in Section 8 Recommendations the Inspectors recommend a number of actions that relate to those comments and considerations.

## The Inspectors' Recommendations

- 1.4 For ease of reference, the recommendations are repeated below:
  1. We recommend that the Department carries out an extension of the comparison between the inland option S5-2-V4 and the combined option (now the Scheme) taking into account the factors set out in para (Section) 7 of this report.
  2. Subject to the above, we recommend that the impact of the Scheme at Langley Hall be re-examined in the light of design development, at least to the extent of temporary use of the land in question for construction purposes with subsequent reinstatement.
  3. We recommend that the Department sends a written reply to Mr & Mrs McCay's document Oth 14.

### Recommendation 1

- 1.5 During Stage 2 of a scheme assessment, a number of options for meeting the objective of the scheme are drawn up and assessed and one option is chosen as the Preferred Option. The Preferred Option is thereafter developed in more detail to be the Scheme that is the subject of the Orders.

- 1.6 The objective of this scheme is to remove the bottleneck on the A2 Strategic Route at Greenisland by providing two lanes of traffic in each direction. At Stage 1 of the scheme preparation, two strategies for removing the bottleneck were put forward for further consideration in Stage 2. The two strategies were an online widening scheme and an inland scheme (through Greenisland).
- 1.7 At Stage 2 of the scheme preparation a number of options were developed and assessed to illustrate how those strategies might be implemented. One option from each strategy and also an option from a combination of the strategies were presented to the public for consultation. These were referred to as the Online Option, the Inland Option and the Combined Option. Following due consideration, the Combined Option was put forward as the basis for the Preferred Option. That option was developed in more detail and an Environmental Statement, Direction Order and Vesting Order were prepared.
- 1.8 A number of objections to the scheme orders suggested that the Inland Option would have been the better option to take forward. The Inspectors seek confirmation that if certain factors are reviewed, the Inland Option would, or would not, have been more appropriate as the Preferred Option. These factors, as discussed in Section 7 Considerations of their report, are as follows:
- Quality Bus Corridors,
  - A dropping-off layby at Belfast High School,
  - Traffic forecasts and the BMAP,
  - Further development of the A2 road,
  - Provision of an extra road with the Inland Option,
  - Comments on the economic assessment of S5-2-V4, the Inland Option.
- 1.9 At the Inquiry, the Inspectors heard the case made for the Environmental Statement, Direction Order and Vesting Order relating to the A2 Shore Road Greenisland scheme by the Department's representatives. That case was in support of the development of the Combined Option as the Preferred Option. The Inspectors also heard objectors to the proposed scheme, including those that expressed a preference for a scheme based on the Inland Option. Not least, the Inspectors heard a case made for an alternative scheme largely based on the Inland Option.
- 1.10 For the avoidance of doubt it should be noted that the objectors to the scheme that is the subject of the published draft Orders, had opportunity to make that objection and to have those objections heard in the Inquiry. They also had the opportunity to express their support to the Inland Option that was not taken forward, both in writing to the Department and within the course of the Inquiry. Any person or organisation wishing to object to any alternative proposal raised at the Inquiry that was based on the Inland Option has not had, and could not have had, the same opportunity to object to that alternative.

## Recommendation 2

- 1.11 The second item concerns the design of the scheme in the vicinity of Langley Hall. The Vesting Order plans show that a communal area of Langley Hall estate, adjacent to Schooner Court, would be taken for the widening of the road. There were many objections to that loss of land and those objections tended to suggest that the proposed widening of the road should be further towards the (Belfast Lough) shore side of the road. Land had also been included in the vesting plans on the shore side of the road for the purpose of improving visibility and pedestrian crossing facilities and Roads Service acknowledged during the Inquiry that significant detailed design was required in that area of the scheme to ensure that all safety issues had been fully explored.
- 1.12 An important issue discussed in the Inquiry was the benefit of being able to provide sufficient land to enable a new carriageway to be constructed alongside the existing carriageway to minimise disruption to traffic during construction. That will not be achieved in all parts of the widening but at Langley Hall the land in the vesting plans would have facilitated that. Roads Service acknowledged that, if the buildability factor was to be retained, the land from Langley Hall could be reduced but not removed altogether.
- 1.13 The Inspectors are in effect asking for the design to be re-examined to determine whether the widening could be achieved without any land take from Langley Hall. They also asked whether land might be taken on a temporary basis to ease the buildability, but not to be lost permanently.

## Recommendation 3

- 1.14 The third item related to discussions within the Inquiry with the McCays and their representatives. They alone did not receive a copy of their written representations that were received by the Department immediately before or during the Inquiry.

## Framework of this Report

- 1.15 For ease of reference and to aid any review to determine that all points raised by the Inspectors have been answered, this report has been structured so that it follows the framework of the Inspectors' report. The majority of issues covered are dealt with as arising from Section 7 Considerations but for completeness, a reference is given where they are first raised in Sections 4 and 6 of the Inspectors' report. Chapters 2 and 3 in this report are provided for that purpose and the page number of the Inspectors' report is given where this helps cross-referencing.
- 1.16 Chapters 4-10 give a full response to individual issues from the Inspectors' Considerations. Chapter 11 Inspectors' Recommendations confirms that their recommendations have been given a full response and it provides a summary that brings together related 'Considerations'.
- 1.17 Chapter 12 Conclusions gives a final statement on the findings of the assessments and re-examinations and whether these would materially change the conclusions drawn at Stage



2 of scheme preparation and also the implementation of the scheme in the vicinity of Langley Hall.

## Relevant Policies

- 1.18 Some of the issues raised by the Inspectors concern matters of policy. The relationship of relevant policy documents was described in the Stage 1 Scheme Assessment Report that was prepared at the end of Stage 1 of scheme preparation, which considered various strategies for meeting the objectives of the scheme. A brief review of the relevant policy documents is given in Appendix A to this report.
- 1.19 The A2 Shore Road Greenisland scheme is the implementation of a policy in the Belfast Metropolitan Area Plan and the Belfast Metropolitan Transport Plan to remove a bottleneck on the strategic road, the A2. It should be noted that it was determined that the development of the BMTP could not be realistically undertaken without adopting a holistic approach across all modes of transport including the railways and the motorway component of the road network. Consequently the BMTP refers to public transport improvements that are relevant to the Belfast Metropolitan Area, though their implementation is via another Transport Plan, the Regional Strategic Transport Network Transport Plan.
- 1.20 The proposals in the BMTP represent a balanced and multi-modal approach to transport that takes into account the latest UK guidance and experience on sustainable local transport provision. The BMTP will provide for and encourage greater use of public transport and greater levels of walking and cycling whilst also supporting an appropriate level of movement of cars and goods vehicles which realistically will remain the most used form of transport during the Plan period.
- 1.21 The crucial point is that the implementation of the A2 Shore Road Greenisland scheme is not an alternative to public transport improvements but is complementary to public transport improvements.

## 2 Comments Relating to Section 4 Oral Presentations

### K J and E R Livett: re Langley Hall (page 13)

- 2.1 This concerns the vesting of land from Langley Hall and was referred by the Inspectors to their para (Section) 7. No specific comment is required here as it is fully dealt with Chapter 4 Inspectors' Considerations – Langley Hall.

### J and L McCay: re reply to OTH 14 (page 18)

- 2.2 The Inspectors noted that the Department did not send a written reply to the objectors' document OTH 14. They recommended that a written reply should be sent.
- 2.3 A letter was sent to Mrs McCay on 26<sup>th</sup> November 2007 enclosing a response to the questions and comments in the document OTH 14.

### F Anderson: re Langley Hall (page 23)

- 2.4 This concerns the vesting of land from Langley Hall and was referred by the Inspectors to their para (Section) 7. No specific comment is required here as it is fully dealt with Chapter 4 Inspectors' Considerations – Langley Hall.

### D Camlin: re Langley Hall (page 24)

- 2.5 This concerns the vesting of land from Langley Hall and was referred by the Inspectors to their para (Section) 7. No specific comment is required here as it is fully dealt with Chapter 4 Inspectors' Considerations – Langley Hall.

### East Antrim Farming: re legal matters (page 25)

- 2.6 The following comment was made in the Inspectors' report,
- “The legal matters relating to the preparation of the Environmental Impact Assessment and to rights under HRA and ECHR (including the Greek Housing Association decision) are not matters for this Inquiry.”
- 2.7 For avoidance of doubt, the specific reference should be to the Appropriate Assessment of the impact of the scheme proposals on designated habitats as defined by the Habitats Directive (92/43/EEC) as implemented by The Conservation (Natural Habitats, etc ) Regulations (Northern Ireland) 1995 and not to the wider environmental assessments as reported in the Environmental Statement.



## J Elliott: re Langley Hall (page 26)

- 2.8 This concerns the vesting of land from Langley Hall and was referred by the Inspectors to their para (Section) 7. No specific comment is required here as it is fully dealt with Chapter 4 Inspectors' Considerations – Langley Hall.

## 3 Comments Relating to Section 6 Written Representations

### N Bentham: re Langley Hall (page 39)

- 3.1 This concerns the vesting of land from Langley Hall and was referred by the Inspectors to their para (Section) 7. No specific comment is required here as it is fully dealt with in Chapter 4 Inspectors' Considerations – Langley Hall.

### J Martin: re Inland Option (page 52)

- 3.2 As the Inspectors confirmed, 'The objector stated:
- The Scheme was less safe than the inland option;
  - There was no provision for bus lay-bys;
  - The inland option would permit traffic flow to be maintained during construction;
  - The inland option would result in two roads to serve all traffic.'
- 3.3 The Inspectors expressed satisfaction with the detail of the Department's response to J Martin but referred to comments in their para (Section) 7. No specific comment is required here as issues concerning the inland route are fully dealt with in a number of Chapters. The only specific issue relevant to J Martin is Chapter 9 Inspectors' Considerations – Extra Road on Inland Option.

### I and R A Patrick: re Inland Option (page 54)

- 3.4 The submission from I and RA Patrick listed a number of concerns in the proposed scheme and then stated that the inland route would address many of the concerns highlighted. The Inspectors expressed satisfaction with the generality of the Department's response to I and RA Patrick but referred to their para (Section) 7 on matters affecting the rationale of the scheme.
- 3.5 No specific comment is required here as issues concerning the inland route are fully dealt with in a number of Chapters. The submission from I and RA Patrick did include a comment that the Belfast High School is a major bottleneck and that the provision of off-road parking in that area and rigid traffic control would deal with this. Therefore specific reference should be made in particular to Chapter 6 Inspectors' Considerations – Dropping-off Layby at Belfast High School and Chapter 7 Inspectors' Considerations – Traffic Forecasts.

## L and P Donaldson: re various items (page 55)

- 3.6 The submission from L and P Donaldson listed a number of concerns in the proposed scheme. The Inspectors expressed satisfaction with the generality of the Department's response to L and P Donaldson but referred to their para (Section) 7 on matters affecting the rationale of the scheme.
- 3.7 The following issues were referred by the Inspectors to their para (Section) 7.

### Bus lane

- 3.8 This concerns the possible future provision of a bus lane. No specific comment is required here as it is fully dealt with in Chapter 5 Inspectors' Considerations – Quality Bus Corridors.

### Dropping off children on Shore Road

- 3.9 This concerns the traffic problems caused by parents dropping-off children at Belfast High School. No specific comment is required here as it is fully dealt with in Chapter 6 Inspectors' Considerations – Dropping-off Layby at Belfast High School.

### The effect of BMAP development

- 3.10 This concerns the issue that the scheme has no spare capacity for expansion of Greenisland and Carrickfergus. No specific comment is required here as it is fully dealt with in Chapter 7 Inspectors' Considerations – Traffic Forecasts.

## A MacFadyen and D Rooney: re various items (page 57)

- 3.11 The submission from A MacFadyen and D Rooney listed a number of concerns in the proposed scheme. The Inspectors expressed satisfaction with the generality of the Department's response to A MacFadyen and D Rooney but referred to their para (Section) 7 on matters affecting the rationale of the scheme.
- 3.12 It is understood that the following issues were referred by the Inspectors to their para (Section) 7.

### Bus lane

- 3.13 This concerns the lack of consideration of a bus corridor. No specific comment is required here as it is fully dealt with in Chapter 5 Inspectors' Considerations – Quality Bus Corridors.

### **The effect of BMAP development**

- 3.14 This concerns the issue that the scheme has no consideration of the expansion of Greenisland and Carrickfergus. No specific comment is required here as it is fully dealt with in Chapter 7 Inspectors' Considerations – Traffic Forecasts.

### **F Woods: re various items (page 59)**

- 3.15 The submission from F Woods listed a number of concerns in the proposed scheme. The Inspectors expressed satisfaction with the generality of the Department's response to F Woods but referred to their para (Section) 7 on fundamental issues affecting the basis of the scheme.
- 3.16 It is understood that the following issues were referred by the Inspectors to their para (Section) 7.

### **The effect of BMAP development**

- 3.17 This concerns the issue that the scheme has no consideration of the expansion of Greenisland and Carrickfergus. No specific comment is required here as it is fully dealt with in Chapter 7 Inspectors' Considerations – Traffic Forecasts.

### **No opportunity for further development (of the road)**

- 3.18 This concerns the issue that the proposed scheme does not provide scope for further improvements in the future whereas, by implication, the inland option would. No specific comment is required here as it is fully dealt with in Chapter 8 Inspectors' Considerations – Future Road Development.

### **The benefit of an extra road on the Inland Option**

- 3.19 This concerns the issue that a new inland route would free up a substantial volume of local traffic. No specific comment is required here as it is fully dealt with in Chapter 9 Inspectors' Considerations – Extra Road on Inland Option.

### **Belfast High School: re dropping-off layby (page 64)**

- 3.20 This concerns the request by the Belfast High School for a dropping-off layby on Shore Road opposite the school and was referred by the Inspectors to their para (Section) 7. No specific comment is required here as it is fully dealt with in Chapter 6 Inspectors' Considerations – Dropping-off Layby at Belfast High School.

## J Brett: re Inland Option (page 66)

- 3.21 J Brett simply stated that the road should go through the school grounds, that is the Inland Option. The Inspectors had no specific comment in this case but referred to their comments in para (Section) 7 on issues affecting the basis of the scheme. No specific comment is required here as it is fully dealt with in various Chapters that respond to the Inspectors' Considerations.

## 4 Inspectors' Considerations – Langley Hall

### The Issue of Alignment at Langley Hall (page 73)

4.1 The Inspectors' Report included the following in (Section) 7 CONSIDERATION:

“3. A number of objections related to the proposed vesting of land at Langley Court. We note that this development obtained planning approval and Roads Service consent in compliance with the road protection line applicable at the time. We appreciate that as road schemes advance to design stage, earlier protection lines may have to be encroached in the wider public interest. But we also appreciate that it was reasonable for the purchasers of the properties in 2002 to conclude that the development line agreed then would not have to be adjusted.

4. We note that the Department has agreed to reduce the land take at Langley Hall but consider that as the detail of the Scheme design develops, the possibility of avoiding the area should be examined, particularly since land on the shore side has been included in the vesting schedule.”

4.2 The Inspectors also added in (Section) 8 RECOMMENDATIONS and their Recommendation 2 that a temporary use of Langley Hall grounds should be examined, as follows:

“2. Subject to the above (extended stage 2 comparison), we recommend that the impact of the Scheme at Langley Hall be re-examined in the light of design development, at least to the extent of temporary use of the land in question for construction purposes with subsequent reinstatement.”

4.3 To clarify the above issues, the following is extracted from the Proof of Evidence to the Public Inquiry, 'Submission of Scheme Design':

6.18 One major consideration is that there will be a significant construction benefit, albeit a temporary one, if a new carriageway can be built alongside the existing road whilst allowing traffic to use the existing road unhindered. Investigations show that the road alignment could be moved and incursion to Langley Hall could be reduced whilst retaining that benefit, but it could not be removed from Langley Hall entirely.

6.19 Drawing Nos. S100532 / SK152 - 155 illustrate the concept of buildability, or ease of construction, and also the proposed scheme in comparison with reducing the impact on Langley Hall or removing it altogether.

6.20 The current proposals require a triangular area over a frontage of approximately 33m by 5m at the widest part. This could be reduced to approximately 11m by 1.25m, at the northernmost edge of the gardens whilst maintaining the construction benefit. There would be additional works to services and accommodation works on the shore side of the road.

6.21 If the road widening is removed entirely from Langley Hall gardens, a new carriageway could not be constructed whilst allowing traffic to use the existing road



unhindered. Providing revised accesses to properties on the shore side would become increasingly difficult due to the slope of the land.

6.22 In conclusion, with regard to land at Langley Hall, the area affected can be reduced whilst maintaining buildability though that would increase land required from shore side properties and associated accommodation works. If the considered view of the Public Inquiry supports that premise, Roads Service feels it would be able to comply. The improved road line cannot wholly avoid Langley Hall grounds without adversely affecting the ease of construction of the works and Roads Service would not wish to encourage that outcome.

## Re-examination of Alignment

- 4.4 The alignment of the widened road at Langley Hall has been reviewed and the detailed horizontal and vertical alignment has been revised to demonstrate that the works can avoid the grounds of Langley Hall entirely as requested by the Inspectors.
- 4.5 New access arrangements to the Belfast High School and a revised assisted pedestrian crossing facility have been discussed and agreed in principal with the school. There will be a separated 'In and Out' arrangement within the school frontage, and not to Silverstream Banks as shown previously, with improved facilities for children alighting and boarding buses within the curtilage of the school. The pedestrian crossing has been moved to the northern side of the school frontage and the crossing will be a staggered crossing as recommended by the Stage 1 Road Safety Audit. These changes have been added to the scheme layout as part of the review of the alignment in the area of the school and Langley Hall.
- 4.6 The resulting alignment of the road is shown on Drawing No. S100532/SK178 and illustrative cross-sections are shown on Drawing Nos. S100532/SK179 & SK180 enclosed with this report.
- 4.7 The concept of temporary use raised by the Inspectors has been examined; that is to use part of Langley Hall gardens temporarily during construction, which would be re-instated on completion of the works. That would involve demolition of the existing retaining wall along the relevant part of the Langley Hall boundary, a wall that is at present covered by fill. The grounds would have to be cut back either to a safe slope or a to a temporary retaining wall to minimise impact on the grounds. Finally on completion of the works, the permanent retaining wall would have to be rebuilt in its original location.
- 4.8 That would involve a considerable amount of effort and disruption for a temporary purpose. On balance, it would be more appropriate to undertake some temporary works on the shore side of the road. Those temporary works would enable the buildability concept to be followed, but the temporary works would be within the land that would be acquired for the permanent works.

## Summary

- 4.9 The Inspectors requested that the possibility of avoiding the Langley Hall area should be examined, particularly since land on the shore side has been included in the vesting schedule. The design has been reviewed and it has been demonstrated that the widened road can be aligned to avoid Langley Hall whilst satisfying other safety and access considerations in the immediate area and that this can be achieved within land identified in the vesting plans. There is little or no advantage in using Langley Hall grounds temporarily.
- 4.10 It is proposed that Shore Road be widened in such a manner as to avoid Langley Hall entirely.

## 5 Inspectors' Considerations – Quality Bus Corridors

### The Issue of Quality Bus Corridors (page 73)

5.1 The Inspectors' Report included the following in (Section) 7 CONSIDERATION:

**“Quality Bus Corridors.** We note that the Regional Transportation Strategy 2002-2012 planned for the introduction of Quality Bus Corridors on the main radial routes in Belfast. Indeed the Shore Road corridor is specifically mentioned in the BMTP. Should such a corridor be provided on the Shore Road it would effectively reduce the peak hour capacity to one lane. There was no indication in the Department's evidence that this was a factor in the comparison of route options.”

5.2 A fuller review of the Regional Transportation Strategy and the Belfast Metropolitan Transport Plan and their relationship, and the policies relevant to the A2 Shore Road Greenisland scheme can be seen in 'Appendix A – Relevant Policies' accompanying this report.

5.3 As stated in paragraph 1.19 of the Introduction of this report, the crucial point is that the implementation of the A2 Shore Road Greenisland scheme is not an alternative to public transport improvements but is complementary to public transport improvements.

### The Belfast Metropolitan Transport Plan

5.4 The Regional Transportation Strategy 2002-2012 planned for the introduction of Quality Bus Corridors on the main radial routes in Belfast. The Belfast Metropolitan Transport Plan (BMTP) proposes the roll out of several Quality Bus Corridors (QBCs) on radial corridors such as the A2 Shore Road by 2015.

5.5 The BMTP states that QBCs will offer a substantial improvement in the quality of bus provision, characterised as comprising: infrastructure measures; service improvements; and operational improvements. The infrastructure measures comprise, “the provisions of additional bus priority measures on the road network”, (Section 5.41) these include conventional bus lanes and bus only streets. However, the bus priority measures are only envisaged on core routes.

5.6 On non-core routes infrastructure measures comprise the provision of high quality bus shelters and the improvement of walk access/egress to/from bus stops. Although QBCs are sometimes mistakenly thought to include bus-only lanes as a matter of course, that is not the case.

5.7 Figure 5.5, of the BMTP, shows the location of the proposed QBCs, and identifies them as either core routes or non-core routes. The A2 Shore Road is identified as a QBC core route between Belfast city centre and the end of the M5 Motorway, from which point it

becomes a non-core route until Whiteabbey. Beyond Whiteabbey the A2 is not identified as a QBC, and that includes the section of A2 scheduled for improvement under the proposed scheme.

- 5.8 There are therefore no proposals in the BMTP for a bus-only lane north of the M5, or for a non-core route north of Whiteabbey. The question of a QBC is not a factor in the comparison of route options in the A2 improvement scheme.

## The Proposed Scheme

- 5.9 The scheme makes no provision for a bus-only lane. In that regard, the A2 Shore Road Greenisland scheme complies entirely with the RTS and the BMTP. The Department has, however, committed to provide improved facilities for passengers by means of wider footways and new shelters at bus stops. The provision of assisted pedestrian crossings near bus stops will also improve matters for bus passengers and the increased road space and removal of the existing bottleneck at Greenisland will create more opportunity for improved reliability of bus services.
- 5.10 The proposed A2 Shore Road scheme will bypass part of Shore Road where it is re-aligned inland. The bypassed section of Shore Road from Seapark to just north of Station Road will be available to continue existing scheduled bus services.

## Summary

- 5.11 The Belfast Metropolitan Transport Plan (BMTP) proposes the roll out of several Quality Bus Corridors (QBCs) on radial corridors such as the A2 Shore Road by 2015. However, north of Whiteabbey the A2 is not identified as a QBC, and that includes the section of A2 scheduled for improvement under the proposed scheme.
- 5.12 Regardless, although the Department will not provide a bus-only lane, it has committed to provide improved facilities for passengers by means of wider footways and new shelters at bus stops. There will also be assisted pedestrian crossings near bus stops and the removal of the existing bottleneck at Greenisland will create more opportunity for improved reliability of bus services.
- 5.13 The proposed scheme fully complies with the BMTP and the provision of a Quality Bus Corridor is not a factor in the comparison of route options in the A2 improvement scheme preparation.

## 6 Inspectors' Considerations – Dropping-off Layby at Belfast High School

### The Issue of a Dropping-off Layby (page 73)

- 6.1 The Inspectors' Report included the following in (Section) 7 CONSIDERATION:
- Belfast High School.** The Scheme did not provide for a lay-by on the shore side for dropping off children at the High School. We are not entirely convinced by the Department's statement that the provision of a second lane would help to ease the situation. At peak hours we anticipate - two free flowing lanes approaching the school - the inner lane becoming blocked by school drop-offs - traffic in the inner lane changing lane to avoid the blockage. If a lay-by is not to be constructed we consider that the impact of this factor ought to be measured in an inland/combined route comparison.
- 6.2 It is considered that two issues should be considered; firstly would a layby be considered beneficial and therefore be provided and secondly, if a layby is not provided what would the economic impact be. The crux of the Inspectors' query is whether that would have influenced the decision at Stage 2 for the Preferred Option.
- 6.3 At the Public Inquiry there was much discussion regarding the proposed scheme in the vicinity of Langley Hall and Belfast High School. The evidence given to the Inquiry illustrated that there were a number of safety factors in this part of the proposed scheme and the debate about the alignment has been reported in Chapter 4 of this report. It is considered appropriate therefore in this case to examine the practical aspects of providing a layby in conjunction with probable changes to the scheme at Langley Hall.
- 6.4 The following paragraphs first illustrate a potential dropping-off layby and describe some of the issues concerned with that and whether opportunities would have been possible on the inland option too. Secondly they describe an economic assessment of the disruption dropping-off activities might have in the absence of a layby and whether that might have influenced the choice of option. The findings are then summarised.
- 6.5 A survey of dropping-off and picking-up activity was undertaken at the school to inform this review of the provision of a layby. The survey was undertaken on the mornings and afternoons of school activity on 19<sup>th</sup> and 22<sup>nd</sup> February 2008. The survey recorded both dropping-off and picking-up activities in both directions and during the morning and afternoon peak periods. As would be expected, the dropping-off activity occurred in the morning peak period and the picking-up activities in the afternoon.
- 6.6 It should be noted that the morning activity co-incided with the general peak period of the road but the afternoon activity occurred before the main afternoon peak period. Cars dropping off stood for less than one minute whereas cars waiting to pick up could be standing typically for five minutes.

## Dropping-off Layby – Yes or No

### Survey - vehicles stopped at same time

- 6.7 The survey showed that for vehicles approaching from the north during the morning peak period, the maximum number of vehicles that stopped to drop off children at the same time was seven. The maximum number of vehicles from the north during the evening peak period that stopped to pick up children at the same time was 19. These numbers did include some vehicles coming from the north that turned right into either Langley Hall entrance, the school entrance or Silverstream Banks. If a layby were to be provided on the southbound carriageway, reasonably close to an assisted crossing, those vehicles might use that layby even if they were returning northwards. It would be prudent to assume that was the case, to ensure a layby would be of adequate length.
- 6.8 The length of any layby required to serve dropping-off activities would therefore be of the order of 42m (7 vehicles at 6m) in the morning. The length of layby required to serve picking-up activities, where cars tend to be parked for longer periods, would be of the order of 114m (19 vehicles at 6m) in the afternoon.
- 6.9 A layby to serve the dropping-off activity on the southbound carriageway during the morning peak would be of the order of 42m long. A layby to serve the picking-up activity would be of the order of 114m long, but as it occurs before the main peak period that would not essentially be required. However, if a shorter layby was provided sufficient for the morning activity (42m), it would be expected that it would be filled during the afternoon picking-up activities by some of the vehicles and the remainder would be waiting on the carriageway. This might suggest that if a layby is provided, it would need to be as long as possible (or 114m).
- 6.10 The corresponding figures for northbound traffic on the northbound carriageway adjacent to the school are given for comparison. For northbound traffic, the survey showed that the maximum number of vehicles stopped to drop off children at the same time was six, during the morning peak period. The maximum number of vehicles stopped to pick up children at the same time was 24, during the evening peak period. The length of any layby required on the northbound carriageway to serve dropping-off activities would therefore be of the order of 36m (6 vehicles at 6m) in the morning. The length of layby required to serve picking-up activities, where cars tend to be parked for longer periods, would be of the order of 144m (24 vehicles at 6m).
- 6.11 It should be taken into account that northbound traffic in the morning is lower than the southbound flow and in respect of disruption caused by dropping-off activities is less of an issue than for the southbound flows. The picking-up in the afternoon occurs before the main build up of traffic. It is probably for those reasons that neither the Belfast High School, nor the Inspectors, suggested a northbound layby.

## Layby illustration

- 6.12 As discussed in Chapter 4 of this report, it is proposed that the alignment of the road be altered from that initially proposed and it is expected that the access and pedestrian crossings at the school will be revised by agreement with the school.
- 6.13 An additional drawing has been prepared which illustrates the provision of a layby on the shore side of the road in the revised, proposed alignment. The [Drawing No. S100532/SK184](#) is enclosed with this report.
- 6.14 The layby illustrated is a Type B layby, from the Departmental Standard TD 69/07, having a depth of 3.5m. However, that would require a departure from that standard as the standard requires a Type A layby for a 40mph road. The Type A layby has a total depth of 8.8m which is not achievable without acquiring additional land and the resulting increased impact on property. The Type B layby is drawn as an extension of the proposed bus layby.
- 6.15 The drawing illustrates that on the basis of the scheme now proposed, having satisfied other concerns at Langley Hall and the school, the maximum length illustrated is approximately 90m. That allows for a protected space within the layby for scheduled buses to stop and gives a reasonable clearance of the assisted pedestrian crossing at the school.
- 6.16 The survey has indicated that southbound picking-off activities would require a layby of 42m. However, it is considered that any layby would inevitably be used for picking-up activities and the survey indicated that the length required for that purpose would have been 114m. Thus the maximum length available would be somewhat less than required. The width of the shorter layby could be provided within the land identified in the vesting plans. However, to achieve the longer layby within the vesting land, the radius of the road would have to be tightened a little to push the road laterally towards the school by 2-3m.

## The assessment of layby activity

- 6.17 The provision of a dropping-off layby would have a number of benefits:

Vehicles waiting in a layby would not interfere with vehicles using the nearside lane of the carriageway.

A layby would be expected to reduce the incidence of vehicles pulling off the carriageway and onto the footway in order to drop off / pick up.

Passengers or the driver leaving the car on the offside would have greater separation from vehicles passing by.

The positioning of the signalised crossing prior to the lay-by could aid vehicles leaving the lay-by by creating gaps in traffic.

By extending the current bus layby, buses would find it easier to reduce their speed on the main line when pulling into the layby and reduce risk of a collision from behind,



(as long as other vehicles had not strayed into the bus area thereby making it more difficult for the buses).

6.18 The provision of a dropping-off layby would have certain disadvantages:

The layby would be situated on the inside of a bend. Vehicles pulling out of the layby would therefore have reduced visibility of approaching traffic on the main line. Visibility will be further decreased should other vehicles be parked in the lay-by.

Even with an extensive layby, there is still a high possibility of cars waiting on the main line and this could further hinder visibility for vehicles emerging from the lay-by. Waiting restrictions on the main line would reduce this but could also encourage motorists to park up in the lay-by earlier and wait longer causing frustration for those unable to park.

Residents may use the lay-by as an acceleration lane increasing conflict with other parked cars, pedestrians and traffic on the mainline.

Should vehicles be parked across the access to a property then the resident may be forced to wait for the parked vehicle to move. This could result in hesitation when pulling off the main line or even the possibility of waiting on the main line during busy periods.

During busy periods vehicles may be tempted to park in the bus area of the layby. This could force buses to stop in an unsafe manner either partially on the footway or within the carriageway. It might be prudent to separate the bus stop from the layby, but that would shorten the length available.

The layby would be used for general parking by visitors or attendees at the school and also at the University.

Obstruction of private accesses would become a police enforcement issue. If such a proposal were put forward, the police would have to be consulted and they may be unwilling to be faced with such a problem, and it may be unlikely to be enforced. Waiting restrictions would be necessary to prevent parking and ensure that the layby would be available for its intended use; setting down and picking up. It would require a legislative process and approval by the appropriate authorities.

6.19 In practice the use of a layby may be as disruptive as vehicles stopping on the carriageway. Rather than just pulling away, they would have to wait for gaps in the traffic and that may hinder other drivers waiting to pull into the layby. The act of driving or reversing into the layby might also be disruptive if the targeted space in the layby is relatively short. It is inevitable that there would be traffic friction as vehicles attempted to enter the layby and attempted to leave the layby.

6.20 The layby illustrated would cross four single property accesses and an access serving four properties. There are development plans at properties No. 749/751 and No. 757, much commented on at the Inquiry. If these come to fruition, there would be a major increase in the number of residential properties that would have to cross the layby to gain access.



- 6.21 At present there is a culture of little parking on Shore Road, possibly as a result of the immediate disruption that would cause. When the road is widened, that culture should remain if maximum benefit is to be gained from the extra lanes. There is a reluctance to do anything that might cause that culture to change and a general layby may do that. On balance it is considered better to accept a very limited amount of disruption on school days.
- 6.22 A Road Safety Audit of the scheme was carried out by an independent Road Safety Audit team in accordance with Departmental procedures prior to the publication of the Orders for the scheme. Following receipt of the Inspectors' Report they were asked to consider this particular issue. Many of the points above are taken from their comments. They considered that, in the interests of road safety, on balance the layby should be omitted from any design.
- 6.23 It is not generally incumbent on Roads Service to provide such a facility at a school. Laybys might be formed in a scheme to rationalise existing road space where it is beneficial to do so, for example at a district shopping street, but it is not a general policy to acquire land for the purposes of a layby to serve a particular establishment.

### Opportunities on the Inland Option

- 6.24 In the Inland Option illustrated and assessed at Stage 2, the road would have been aligned through the grounds at the front of the school. There would have been some school land cut off from the school on the shore side of the new road. It would have been possible to use that land for a dropping-off / collection area with a single access and separate egress, much like a service area on a motorway for example.
- 6.25 The school do not have such a facility at present on the shore side of the road. It is not generally incumbent on Roads Service to provide such a facility at a school and as there is no such facility at present they would not be in the position of replacing any such loss. In the case of the Inland Option therefore, the school would have the space to provide the facility but would have to implement it at its own cost.
- 6.26 The provision of a layby (as opposed to the pull-off area) on the southbound carriageway would have been less problematic in that there would have been no accesses in the vicinity and the alignment (curve) of road would have presented fewer difficulties subject to further design. However, the issues, including safety issues, would otherwise be as on the Preferred Option and therefore the provision of a layby would not have been proposed on either option.

### Economic Assessment of 'Dropping-off' Activity

- 6.27 In order to assess the economic impact of the dropping-off activity, that is the situation where there is no layby provided, an estimate of the likely delay caused to traffic on the southbound carriageway must be made. More specifically, an estimate is needed of the number of vehicles that would cause the delay and for how long, and the number of vehicles that would suffer that delay.

6.28 It might be considered that all traffic would be delayed a little by cars stopping to let out children but in practice that would not be the case. As the majority of the traffic on the A2 at peak times is commuter traffic, which uses the road on a regular basis, it is felt that most drivers would anticipate parking for school drop-offs in the nearside lane at the same times every weekday and would move over into the offside lane in sufficient time to minimise delay.

6.29 However all traffic would only be able to do this when the volume of traffic did not exceed the capacity of the offside lane. The assessment of delay is therefore based on the premise that the vehicles suffering delay will be amongst those vehicles remaining in the inside lane when the outside lane is running at capacity and that they will be delayed for as long as a vehicle stops to drop off children.

### Vehicles that are delayed

6.30 The number of vehicles delayed can be estimated by considering the probable capacity of the uninterrupted outside lane of the carriageway and deducting that from the predicted directional flows to give those remaining in the inside lane.

6.31 The proposed widened road will be an urban dual carriageway with dual 2-lane 6.75m carriageways. The capacity of that road as guided by TA 79/99 'Traffic Capacity of Urban Roads', is 2950vph in a single direction. That is well above the predicted morning peak traffic flow for the scheme, including a predicted flow of 2056vph in 2025 (the Design Year).

6.32 It is considered that the offside lane of a dual carriageway would have a slightly higher capacity than the inside lane, which would be more prone to disruption from vehicles entering and leaving the road. Taking the outside lane capacity as half of the carriageway capacity would in that case understate the case but that would provide an estimate (i.e. 1475vph) to robustly test the impact of the dropping-off activity.

6.33 The survey showed that the dropping-off period lasted from 8.00am to 9.15am. A 15minute lane capacity was therefore taken as 369vph and this was compared to the predicted traffic in five 15 minute periods. It was found that a total of 148 vehicles could potentially be delayed in 2010 and 451 in 2025. It should be noted though that these vehicles would only be delayed if a vehicle stopped in front of them.

### Survey - vehicles that cause the delay

6.34 The school surveys showed that the average length of time that each car was stopped on the southbound A2 to drop-off was 20 to 30 seconds. It has therefore been assumed that the total time taken for each car to decelerate, stop, drop-off and accelerate back up to its original speed would at a conservative estimate be one minute. For each car dropping-off there would be a one minute period during which traffic travelling closely behind it would be delayed.

- 6.35 The maximum number of cars seen dropping-off on the southbound carriageway during the 8.00am – 9.15am time period over the two days of the school surveys was 25. The surveys showed that these drop-offs did not tend to occur concurrently but were evenly spread over the time periods. For the purposes of this assessment it has been assumed that where there is no layby provided, southbound vehicles that at present turn into Langley Hall, the school and Silverstream Banks to drop off children will continue to turn right by means of a U-turn at the proposed Shore Avenue (University) roundabout.
- 6.36 The 25 separate 1 minute periods of delay can be set against the 75 minutes between 8.00am and 9.15am and this indicates that on average only one third of vehicles in that inside lane will be delayed. The school opens 190 days per year. The total delay in 2010 was found to be 9,120 vehicle minutes (152 vehicle hours) and in 2025 it would be 28,500 vehicle minutes (475 vehicle hours).

### Economic assessment

- 6.37 The delay values were converted into delay costs at £11.28 per vehicle hour. This was found to give a cost of delays in 2025, for example, of £5,350 at today's prices. This information was input to the Stage 2 Test 6 model and the result was a Net Present Value (NPV) of £22.90m discounted to 2002 prices.
- 6.38 The original Test 6 had an NPV of £23.14m at 2002 prices, thus the effect of the dropping-off traffic is a reduction of only £0.24m.
- 6.39 The result of this calculation illustrates that in practice the delays from dropping-off activity are negligible (approximately 1%) in terms of the overall financial benefit of the scheme. Even with higher numbers of vehicles dropping off children, the cost would still be negligible in comparison. It should be noted that the Inland Option Test 3 result was a negative NPV of -£5.69m. Therefore the dropping-off factor would have been inconsequential in the comparison of the Inland and Combined Options at Stage 2 assessment and would have had no bearing on the choice of the Preferred Option.

### Summary

- 6.40 Roads Service has no duty to provide a dropping-off layby on the southbound carriageway of the improved road.
- 6.41 On the balance of road safety considerations, and taking into account comments of the Road Safety Audit Team, it is not proposed to provide a dropping-off layby on the proposed scheme nor would it have been proposed on the alternative Inland Option.
- 6.42 A layby would require waiting restrictions to maintain its only intended use for setting down and picking up school children. There would be very practical difficulties of enforcement that would apply equally to a layby on the Inland Option.
- 6.43 There is no provision opposite the school at present for an area for parents to drop off children and there is no means within the proposed scheme for the school to provide such

a facility. On the other hand, there would be scope in the Inland Option, subject to design, for an area owned by the school to become a dropping-off / collection area separated from the road but that would have to be at the cost of the school.

- 6.44 In economic terms, the delays caused by vehicles stopping temporarily to drop-off children would be negligible in comparison with the economic benefits of the scheme. Therefore that would be inconsequential in the comparison of the Inland and Combined Options at Stage 2 assessment and would have had no bearing on the choice of the Preferred Option.
- 6.45 There is no proposal to provide a dropping-off layby on the carriageway opposite the school for the reasons given and the economic implications of that decision would have had no bearing on the choice of the Preferred Option at Stage 2 of scheme assessment.

## 7 Inspectors' Considerations – Traffic Forecasts

### The Issue of Traffic Forecasts (page 74)

7.1 The Inspectors' Report included the following in (Section) 7 CONSIDERATION:

**Traffic Forecasts.** The Department stated in evidence that future traffic flows in both Stage 2 and Stage 3 assessments were calculated using National Road Traffic Forecast growth factors with no account of potential housing or other development within BMAP. In support of this approach the Department asserted that it had the advantage of identifying whether the Scheme could stand up economically without being supported by new land use developments. We refer to the Government's News Release dated 30 November 2004 launching the publication of BMAP and BMTP which emphasised BMTP had been developed in conjunction with BMAP to ensure integration of transport and land use. To demonstrate compliance with this strategy of integration we consider that estimates of likely traffic growth arising from BMAP should be included in a supplement to the Stage 2 traffic model to identify any impact on the results of the original comparison.

### Procedure for Defining Growth

- 7.2 Advice on the economic assessment of transport schemes (public transport, roads etc.) is given in Webtag found on the Department for Transport website. Unit 3.9.2 gives advice on the assessment of options (Stage 2 of scheme assessment).
- 7.3 Within that, para 2.3.2 says that an economic case for each option should be made relative to the most likely, pessimistic and optimistic scenarios. The most likely scenario has been taken to mean projecting traffic growth forecasts at a central value of the range of predicted growth rates of the National Road Traffic Forecasts.
- 7.4 The traffic growth forecasts are based on the measurement of past growth extrapolated forward as a prediction. Growth arises from an increase in the number of vehicles on the road and an increase in activity to and from commercial centres, leisure outlets and residential areas etc., not least from new developments. Predictions are given as a range from low growth to high growth. Within that range, central values of growth are normally taken for road schemes as a reasonable assumption. Using high growth might be viewed as overstating the case on the basis that more traffic enjoying the improved road network would equate to higher benefits arising from the scheme.
- 7.5 It is normal practice to include any approved development in the statement of existing traffic flows as traffic from that development would likely be on the road network at the opening of the road scheme. However, to include traffic from prospective developments that had not been approved for implementation (building), even those in the Belfast Metropolitan Area Plan, would be speculative and more to the point may be double

counting when growth rate predictions are also being applied to known existing traffic flows. The danger is one of overstating the case for the road scheme.

- 7.6 High growth rates can be used as a sensitivity test of the economic case for the road scheme. This would test whether benefits continue to rise with increasing vehicle activity in the road network as opposed to falling because of congestion within the road network arising from higher traffic flows.

## Sensitivity Tests with High Growth

- 7.7 The economic tests undertaken at the Stage 2 assessment were carried out with central growth, i.e. higher than low growth and lower than high growth forecasts. Test 3 Inland Option and Test 6 Combined Option have now been repeated with high growth forecasts.
- 7.8 At the Public Inquiry, one of the objectors suggested that the Test 3 for the inland option S5-2-V4 was unfair in that the junction at Station Road was tested as traffic signals whereas Test 6 for the combined option was undertaken with a roundabout. This was held to be unfair by the objector as subsequent work on the junctions in the proposed scheme had shown that the most appropriate solution for the junctions (Shore Road, Shorelands and Station Road) was based on roundabouts.
- 7.9 It had been described at the Inquiry that when the Preferred Option was developed in more detail, it was found that with the junctions as roundabouts or traffic signals, a significant area of land would have to be acquired, in particular at Station Road. That prompted the use of signalised roundabouts, which can be designed to be smaller than conventional roundabouts and therefore take less land.
- 7.10 The Test 6 at Stage 2 involved conventional roundabouts, including at the junction of Station Road with Shore Road. In order to demonstrate that Test 3 which had traffic signal junctions, was not at a disadvantage, Test 3 has been repeated with the same conventional roundabouts as in Test 6. This makes the inland option comparable with the combined option in terms of types of junction. However, at Station Road the provision of a roundabout would actually have a greater impact on property than a signalised junction. Therefore the all in cost based on Stage 2 calculations was raised from £41.2m to £43.4m, an increase of £2.2m, though this was not as it turned out significant to the resulting comparison of economic value of the options.
- 7.11 The results of all of these tests have been put into a table below so that direct comparison can be made.

NPV in the table refers to the Net Present Value, all costs and benefits whenever they are incurred are discounted back to 2002 prices

BCR in the table refers to the benefit to cost ratio, i.e. the higher the ratio, the better value the scheme

- 7.12 The table firstly demonstrates that with an increase in traffic growth forecasts from central growth to high growth, the economic benefits of the scheme increase in each of the three test cases.
- 7.13 The table secondly shows that when the Inland Option (Test 3) is repeated with the three central junctions as roundabouts as requested by the objector rather than traffic signals, it has a higher economic benefits. However, the benefits are still lower than the benefits from the Combined Option (Test 6).
- 7.14 The table thirdly confirms that the Combined Option (Test 6) has higher benefits than the Inland Option (Test 3) in all circumstances. Thus, the tests of the Inland Option were sound in comparison with the Combined Option (Test 6).

TEST	NPV	BCR
<b>Test 3 Inland Option with traffic signals</b>		
Test 3 at central growth (as at Stage 2)	-£5.69m	0.87
Test 3 repeated at high growth	£47.80m	2.05
<b>Test 3 repeated with roundabouts</b>		
Test 3 with roundabouts at central growth	£8.57m	1.20
Test 3 with roundabouts at high growth	£180.05	3.71
<b>Test 6 Combined Option with roundabouts</b>		
Test 6 at central growth (as at Stage 2)	£23.14m	1.34
Test 6 repeated at high growth	£383.29	6.13

## Summary

- 7.15 The advice from Webtag has been followed that options should be tested on the most likely scenario with the pessimistic or optimistic scenario as appropriate modelled as a sensitivity test. This is taken to mean central growth traffic forecasts as the most likely scenario and in this case high growth traffic forecasts being the most optimistic scenario.
- 7.16 Only central growth was modelled at Stage 2 assessment as it was considered that in view of the development potential in the Belfast Metropolitan Area Plan that low growth traffic

forecasts would not be a reasonable expectation, but high growth traffic forecasts might be overstating the economic case.

7.17 However, having completed the sensitivity test of high growth, the economic modelling demonstrates that the benefits increase with increasing traffic growth and that the results do not change the result in terms of the comparison of the Inland Option and Combined Option.

7.18 The appropriate economic testing procedures have therefore been carried out. The Combined Option was the correct choice of Preferred Option in economic terms, in that it was likely to be a lower cost and have significantly higher benefits than the Inland Option, with both central and high growth predictions.



## 8 Inspectors' Considerations – Future Road Development

### The Issue of Future Road Development (page 74)

8.1 The Inspectors' Report included the following in (Section) 7 CONSIDERATION:

**Future Road Development.** We note the Department's acceptance (A2 52 para 5) that on-line widening offers no opportunity for further road development to meet future needs. The Department stated: "In practice, the same can be said to be true of all the inland options considered unless additional land and property acquisition was undertaken to further future developments". We do not consider this to be a valid counter argument.

8.2 The submission response numbered A2 52 was to a formal objection to the Department's decision to proceed with the Combined Option (as the Preferred Option). This was detailed through eight points in all, most of which compared it less favourably to the Inland Option either directly or by implication. The particular comment referred to by the Inspectors is given as follows below:

"A widened length of Shore Road is less efficient in that it offers no opportunity for further development to meet future needs."

### The Relevant Policy Issues

8.3 It is considered that this is a policy issue. A review of relevant policies is given in Appendix A to this report.

8.4 Paragraph 3.4.2 of the Regional Transportation Strategy (RTS) stated that it was expected that the priorities would be to reduce the infrastructure deficit and halt the decline in the transportation system. The stated priorities included "Highway strategic improvements addressing existing bottlenecks."

8.5 Table 3.1 of the Belfast Metropolitan Transport Plan 2015 (BMTP) lists a number of proposals, also shown in Figure 6.2 – BMTP, including a number of strategic highway network capacity enhancements that are to meet 2025 strategies and that have been identified as priorities in the 2015 Plan.

8.6 The relevant strategies are:

to safely and efficiently cater for longer-distance movements to, from and between different parts of the Belfast Metropolitan Area,

to support the reduction of traffic and negative impacts of traffic on the non-strategic road network with capacity enhancement schemes to address key bottlenecks and provide a consistent standard of road.

8.7 The proposals listed under the 2015 Plan include the following:

**'widening of the A2 at Greenisland on the Carrickfergus corridor (MTC F) from one lane in each direction to two lanes in each direction.'** – Figure 6.5 BMTP.

8.8 The A2 scheme in the BMTP is the scheme being proposed, that is to widen the A2 at Greenisland to two lanes in each direction. There are no indications within the BMTP that further highway improvements would be proposed at any point on the A2 route. On completion of the proposed scheme, the A2 route north of Belfast would have four lanes from the end of the M5 northwards through Carrickfergus. There is no indication in the RTS that having undertaken a scheme within the BMTP period to 2015 there would be further highway improvements on the A2.

8.9 In retrospect, a better answer to the comment "A widened length of Shore Road is less efficient in that it offers no opportunity for further development to meet future needs." would have been that there is no requirement within either the RTS or the BMTP to make provision for further improvement of the A2 at Greenisland. Therefore, it would not have been appropriate to judge whether one option or another were more able to offer opportunities for development (e.g. further widening) and it would not have been appropriate to take that into account when choosing the Preferred Option to take forward to implementation.

## Summary

8.10 It was implied that the Preferred Option (Combined Option) will be less efficient than would have been the Inland Option in that there will be less scope in the future for further improvements of this section of the A2 route. However, the objective of the scheme to remove the bottleneck at Shore Road Greenisland by the provision of 2 lanes in each direction will be met by the Preferred Option as developed through statutory orders procedure.

8.11 The RTS and the BMTP have no indication that further improvements of Shore Road are intended and indeed list other various initiatives for the RTS timeframe to 2025. It would have been inappropriate therefore to have taken any aspirations for future improvements into account when choosing the Preferred Option.

8.12 The correct procedures have been followed in assessing the options at Stage 2 of the scheme preparation in regard to meeting the objectives of the scheme.

## 9 Inspectors' Considerations – Extra Road on Inland Option

### The Issue of an Extra Road on Inland Option (page 74)

- 9.1 The Inspectors' Report included the following in (Section) 7 CONSIDERATION:
6. We consider that the foregoing should be examined in the context of an extended Stage 2 comparison in which account should also be taken of:
- the Department's acceptance (A2 46 para 11c) that an inland route would be of benefit in providing greater capacity through Greenisland and thus afford more options in emergencies;
  - the proposition that an inland option would provide the opportunity of segregating through traffic from local traffic.
- 9.2 For the avoidance of doubt, it should be noted that this is a case in point raised in the Introduction of this report where the Inspectors were able to consider submissions that expressed support of the Inland Option. However, the same opportunity was not available to those that would have objected to a proposal based on the Inland Option, as such a proposal had not been published.

### Additional Capacity?

- 9.3 The submission response numbered A2 46 was to a formal objection to the proposed scheme and in that objection a numbered paragraph 11 stated that the inland route, even on a cursory inspection, would appear to offer a number of advantages (over the proposed scheme). In particular, the advantage in para 11c referred to by the Inspectors stated that:
- “while the Shore Road would be restricted to through traffic it would remain as an alternative in an emergency situation”.
- 9.4 The Department in response stated:
- “The provision of a new dual carriageway in addition to the existing single carriageway Shore Road would provide greater traffic capacity through Greenisland and would therefore provide more options in emergencies. However this is not Road Service's objective.”
- 9.5 Another submission response numbered A2 40 was to a similar objection, which had a negative comparison of the proposed scheme to an inland route. One part of the objection stated that:
- “If inland option was adopted this would enable 6 lanes of road to serve the traffic.”

9.6 The Department in response stated:

“By definition a new road would provide extra carriageway lanes for traffic, as the proposed scheme does over part of the route, but in that situation the bypassed sections of the existing Shore Road will revert to local access roads and will add little to the capacity of the route as a whole through Greenisland. The proposed scheme will be adequate to cater for predicted traffic flows.”

9.7 In both these cases the Inspectors expressed themselves as being satisfied with the generality of the Department’s response (to the whole of each objection). However, they also referred matters affecting the rationale of the Scheme to para (Section) 7 of their report.

9.8 With the benefit of hindsight, the Department’s reference to ‘greater traffic capacity’ (A2 46) was inappropriate as that implied that at all times there was greater capacity of road to be used by all traffic. The response was intended to be to the particular point about use of roads in emergency situations and should more correctly have referred to additional road space, or extra carriageway lanes (A2 40).

9.9 The inland and combined options at Stage 2 scheme assessment were designed and assessed on the basis that through traffic would be prevented from travelling along the bypassed sections of Shore Road. For the Inland Option, Shore Road was defined as a cul-de-sac both north of Station Road and south of Shorelands. For the Combined Option, Shore Road was defined as a cul-de-sac north of Station Road.

9.10 Consequently, the Department stated (in A2 40) that bypassed sections of Shore Road would revert to local access roads, that is roads whose prime purpose is to serve buildings with access to that road. The bypassed sections were not therefore considered in the assessment to be part of the capacity of the road network to cope with traffic between Carrickfergus and Belfast.

9.11 The practicality of using the bypassed sections of Shore Road for general traffic is limited in any event. For the Combined Option (the Scheme) the bypassed section of Shore Road would be the length from Seapark roundabout to the restricted junction just north of Station Road. In comparison, the inland route would have a greater bypassed length from Seapark but it would only extend as far as Shorelands. At that point traffic would have to divert up Shorelands to a junction with the new inland road.

9.12 If traffic were permitted to use the full length of bypassed road in the Inland Option, it would require an extra junction at the Belfast High School. Shore Road from that point southwards would provide no ‘additional capacity’ as the road reverts to four lanes only.

9.13 It is considered therefore that the choice of an inland route would in practical terms not add significant capacity to the road network as by policy and design the bypassed section of Shore Road would be restricted to relatively small local flows. Any traffic using a bypassed section of Shore Road would in any event have to rejoin the 4-lane section of the A2 at some point. Whilst the availability of additional lanes might apparently be useful in emergencies, the bypassed sections of road would not be maintained as emergency diversion routes as there is no specific policy that would require that to be done. To do so, would restrict their potential to operate in the future as primarily residential access roads.

## Segregating Through and Local Traffic

- 9.14 It is understood that the comments regarding segregating through and local traffic may have arisen from a submission response numbered A2 52, which was to a formal objection to the Department's decision to proceed with the Combined Option (as the Preferred Option). This was detailed through eight points in all, most of which compared it less favourably to the Inland Option either directly or by implication. The particular comment referred to by the Inspectors is:

"The opportunity will be missed to have a completely new piece of road, free of a substantial traffic volume of local traffic – in effect two roads for the price of one."

- 9.15 The Department in response stated:

"Roads Service acknowledges that the proposed scheme will not provide the opportunity that an inland option would have provided to segregate through traffic from local traffic. However this is not Roads Service's objective in proposing the scheme. The objective of the proposed scheme is to remove the bottleneck at Greenisland currently experienced by road users.

By definition a new road would provide extra carriageway lanes for traffic, as the proposed scheme does over part of the route, but in that situation the bypassed sections of the existing Shore Road will revert to local access roads and will add little to the capacity of the route as a whole through Greenisland. The proposed scheme will be adequate to cater for predicted traffic flows."

- 9.16 The Inspectors stated in their comments ([F Woods, page 61](#)) that they realised that there is no one perfect solution to removing the traffic bottleneck. While it may be ideal to have two roads at this location, which would separate local from through traffic, they accepted that that was not the purpose of the Scheme; other considerations had to be taken into account. They nevertheless referred to their (Section) 7, see para 9.1 above.

- 9.17 As discussed earlier, the Inland Option would provide a longer length of bypassed road than the Combined Option. In that respect there would be more opportunity for people living on Shore Road to undertake trips (walking, cycling, driving) to other parts of Shore Road without having to mix with significantly high flows on the bypass road. That is acknowledged, but would have little influence in the choice between options as the objective is to find the best option to deal with the bottleneck at Greenisland.

## Summary

- 9.18 The Inspectors considered that these two issues, additional capacity and segregating through traffic from local traffic, should be examined in the context of an extended Stage 2 comparison. Having reviewed these points, it is considered that in terms of additional capacity in the road network and a greater (segregated) length available for localised traffic, that these are not significant matters and would have little influence in the choice between options in this case (scheme).

- 9.19 As part of the economic testing done at Stage 2 of scheme assessment, the Test 3 (Inland Option S5-2-V4) was undertaken with (bypassed) Shore Road defined as a cul-de-sac both north of Station Road and south of Shorelands. That was in accordance with the stated aim that bypassed sections of Shore Road would not become rat-runs for through traffic. Test 6 (Combined Option) also had Shore Road north of Station Road as a cul-de-sac.
- 9.20 The traffic modelling assigned flows to the two routes accordingly. The resulting flows were fed into the economic modelling. It is considered therefore that these issues have been fully examined in the context of the Stage 2 comparison of options.
- 9.21 The bypassed sections of the road would not become a significant part of the road network in terms of either additional capacity or emergency relief routes and the correct assessments were taken of the options at Stage 2 of the scheme preparation.

## 10 Inspectors' Considerations – Economic Assessment of Option S5-2-V4

### The Issue of Economic Assessment of Option S5-2-V4 (page 74)

- 10.1 The Inspectors' Report included the following in (Section) 7 CONSIDERATION:
7. We wish to highlight the following extract from the Stage 2 Scheme Assessment Report (para 6.28) as a backdrop to the examination set out above:  
  
"Thus in economic terms the most likely inland solution option would be Option S5-2-V4 inland by-pass parallel to the Shore Road via Belfast High School. It has the most affordable cost and, possibly, the potential to give value for money,"

### Clarification

- 10.2 The paragraph from the Stage 2 report was taken from the Chapter 6 Traffic and Economic Assessment of that report. This briefly commented on which option of each strategy (Inland, Online and Combined) had the greatest economic merit. The full paragraph stated:
- "Thus in economic terms the most likely inland solution would be Option S5-2-V4, inland bypass parallel to Shore Road via the Belfast High School. It has the most affordable cost and, possibly, the potential to give value for money. The most likely on-line solution would be Option S7-2, but as an urban dual carriageway with roundabouts and widening to one side only. The most likely combined solution would be Option S5S7-1 as an urban dual carriageway with roundabouts and widening to one side only, with a partial urban dual carriageway bypass."
- 10.3 For the avoidance of doubt, the reference to "most affordable cost" was a comparison of inland options only and did not imply most affordable cost of all options examined as that was not the case, though it was at the lowest end of the range of costs of all options. It was acknowledged that the inland option S5-2-V4 possibly had potential to give value for money but at the Stage 2 assessment it had a negative value as shown in Test 3 whereas the online (Test 4 and 5) and combined (Test 6) options had a positive value for money at that stage. In economic terms it started off at a clear disadvantage to other options.
- 10.4 It should be pointed out that economic value was only one of five Government criteria for assessing schemes. The others are safety, environment, accessibility and integration.



## Summary

- 10.5 It can be confirmed that Inland Option S5-2-V4 was considered to be the most feasible of the inland options only. It compared unfavourably in terms of value for money with the Combined Option.



## 11 Summary of Recommendations

### Recommendation 1 – Extended Stage 2 Comparison

11.1 For ease of reference, the recommendation is repeated below:

We recommend that the Department carries out an extension of the comparison between the inland option S5-2-V4 and the combined option (now the Scheme) taking into account the factors set out in para (Section) 7 of this report

11.2 The issues that might have had an influence on the choice between the inland option and the combined option have been re-considered. By way of this report, there has been an extension of the comparison between the inland option and the combined option.

#### Quality bus corridors

11.3 It was found that the proposed scheme fully complies with the BMTP and the provision of a Quality Bus Corridor is not a factor in the comparison of route options in the A2 improvement scheme preparation.

11.4 The scheme nevertheless has committed to providing improved facilities for passengers and the improvement scheme will improve reliability of bus services.

#### Dropping-off layby at Belfast High School

11.5 Roads Service has no duty to provide a dropping-off layby on the southbound carriageway of the improved road. For reasons stated, and the balance of road safety as expressed by the Road Safety Audit Team, it is not intended to provide a dropping-off layby on the proposed scheme.

11.6 In economic terms, the delays caused by vehicles stopping temporarily to drop-off children would be negligible in comparison with the economic benefits of the scheme. Therefore that would have had no bearing on the choice of the Preferred Option.

#### Traffic forecasts

11.7 The appropriate economic testing procedures have been carried out. The Combined Option was the correct choice of Preferred Option in economic terms, in that it was likely to be a lower cost and have significantly higher benefits than the Inland Option, with both central and high growth predictions.

#### Future road development

11.8 The objective of the scheme is to remove the bottleneck on the A2 Shore road at Greenisland. The Regional Transport Strategy and the Belfast Metropolitan Transport Plan have no indication that further improvements of Shore Road are intended. It would

have been inappropriate therefore to take aspirations for future improvements into account when choosing the Preferred Option.

### Extra road on Inland Option

- 11.9 The bypassed sections of the road on any option would not become a significant part of the road network in terms of either additional capacity or emergency relief routes and the correct assessments were taken of the options at Stage 2 of the scheme preparation.

### Economic assessment of Option S5-2-V4

- 11.10 It can be confirmed that Inland Option S5-2-V4 was considered to be the most feasible in economic terms of the inland options only. It compared unfavourably in terms of value for money with the Combined Option.

### Summary for Recommendation 1

- 11.11 All of the issues that the Inspectors recommended should be re-examined have been subject to review and additional work undertaken as requested. It was found that in all cases the correct procedures had been followed and that further examinations confirmed that the Combined Option was the correct choice of Preferred Option.

## Recommendation 2 – Langley Hall

- 11.12 For ease of reference, the recommendation is repeated below:

Subject to the above, we recommend that the impact of the Scheme at Langley Hall be re-examined in the light of design development, at least to the extent of temporary use of the land in question for construction purposes with subsequent reinstatement.

- 11.13 The design has been reviewed and it has been demonstrated that the widened road can be aligned to avoid Langley Hall whilst satisfying other safety and access considerations in the immediate area and that this can be achieved within land identified in the vesting plans. There is little or no advantage in using Langley Hall grounds temporarily.
- 11.14 It is proposed that Shore Road should be widened in such a manner as to avoid Langley Hall entirely.

## Recommendation 3 – McCays' Correspondence

11.15 For ease of reference, the recommendation is repeated below:

We recommend that the Department sends a written reply to Mr & Mrs McCay's document Oth 14.

11.16 A letter was sent to Mrs McCay on 26<sup>th</sup> November 2007 enclosing a response to the questions and comments in the document OTH 14.

## 12 Conclusions

- 12.1 Each and every issue that was raised by the Inspectors has been considered, re-examined and additional work undertaken where requested.
- 12.2 Following this re-examination it is considered that the correct procedures were followed in the assessment of options and that the Combined Option was the correct choice to be taken forward as the Preferred Option.
- 12.3 The alignment of the proposed scheme should be amended to avoid the grounds of Langley Hall.
- 12.4 It is recommended that the scheme that was the subject of Orders and was the subject of the Public Inquiry should be implemented with the amendment at Langley Hall as stated and that the Orders should be made.

## Appendix A - Relevant Policies

1. Some of the issues raised by the Inspectors concern matters of policy. The relationship of relevant policy documents was described in the Stage 1 Scheme Assessment Report that was prepared at the end of Stage 1 of scheme preparation, which considered various strategies for meeting the objectives of the scheme. A brief review of the relevant policy documents is given here for ease of reference.

### The Regional Development Strategy and the Regional Transport Strategy

2. The Regional Development Strategy (RDS) for Northern Ireland sets out the spatial development framework for Northern Ireland up to 2025. The Regional Transportation Strategy (RTS) for Northern Ireland 2002 – 2012 is a daughter document of the RDS and its purpose is to support the RDS and make a significant contribution over the 10 years towards achieving the longer-term provision for transportation contained within the RDS.
3. The RTS has been developed by considering Northern Ireland as discrete areas with specific transport needs; the Regional Strategic Transport Network (major roads and railways), the Belfast Metropolitan Area and collectively the Other Urban Areas and Rural Areas. The implementation of the Strategy will be through three Transport Plans covering those areas: the Regional Strategic Transport Network Transport Plan (RSTNTP), the Belfast Metropolitan Transport Plan (BMTP) and the Sub-Regional Transport Plan (SRTP).
4. The RDS presents four Strategic Planning Guidelines (SPGs) that outline long-term policy direction with regard to developing a regional transportation system. A full description of the SPGs can be seen in Annex C to the RSTNTP. For ease of reference the SPGs are:
  - SPG-TRAN 1: to develop a RSTN based on key transport corridors, to enhance accessibility to regional facilities and services (SPG-TRAN 2-4 following),
  - SPG-TRAN 2: to extend travel choice for all sections of the community by enhancing public transport,
  - SPG-TRAN 3: to integrate land use and transportation,
  - SPG-TRAN 4: to change the regional travel culture and contribute to healthier lifestyles.
5. During development of the RDS, there was a strong consensus that a modern, integrated and sustainable transportation system had to be a central feature of the Region's strategic planning process. There should be a delivery of economic, social and environmental benefits for everyone in NI.

6. As a result of this consultation the RDS transportation vision was drafted:
- ‘to have a modern, sustainable, safe transportation system which benefits society, the economy and environment and which actively contributes to social inclusion and everyone’s quality of life.’**
7. This vision describes aspirations but does not give a definition of a transportation system. A number of characteristics were therefore identified that it was envisaged a modern, efficient transportation system would have. The principal characteristics include:
- use of the latest technology to ensure the best of the system,
  - roads as the prominent feature of the transportation infrastructure,
  - a high quality network to give rapid and predictable journey times for public transport,
  - integration with land use planning,
  - public transport services that can give a realistic alternative to the car,
  - high quality interchanges for integration of different modes of travel,
  - affordable and accessible public transport,
  - a safe environment for pedestrians, including older people and children,
  - safe and extensive walking and cycling networks.
8. Initially, it is expected that priorities would be to reduce the infrastructure deficit and halt the decline in the transportation system. The priorities in the 10-year period (para 3.4.2 RTS) would be:
- highway structural maintenance,
  - highway strategic improvements addressing existing bottlenecks,
  - safety related initiatives,
  - replacement of bus fleet,
  - rail consolidation,
  - local traffic calming and cycle improvements.
9. The RDS is set in a 25-year time frame. The initial activity in years 1-10 will concentrate on halting the decline in the system but with the appropriate funding much needed improvements will be possible. Subsequent strategies in years 11-25 of the RDS time frame would continue initiatives already underway and could see some of the more visionary measures introduced, especially in terms of rapid transit systems, additions to rail services, Bus Quality Corridors and Park & Ride interchanges. Roads would be constructed and maintained to higher standards and there would be more extensive walking and cycling routes.

10. A number of transportation initiatives are identified in the RTS. The most significant of those that affect the A2 Shore Road at Greenisland are as follows though it should be noted that the maps (Figures in the RTS) include schemes that are 'illustrative examples' only – their inclusion does not represent a commitment as that can only follow from more detailed Transport Plans:

widening the A2 at Greenisland – [Figure 5.5 RTS](#),

new trains, additional capacity and refurbished stations on the Belfast to Whitehead railway – [Figure 5.6 RTS](#),

11. Within the 25-year vision for integrated public transport, there could be express coach services and retention of heavy rail with possible sharing of light rail through Carrickfergus. No specific Quality Bus Corridors are identified and Rapid Transit would extend only to Newtownabbey – [Figure 5.8 RTS](#). [NB Quality Bus Corridors would operate on the main radial roads in Belfast with more frequent services and new, better-designed and accessible waiting and boarding facilities.]
12. For ease of reference, copies of the RTS figures noted above can be seen included in this Appendix A.

## The Regional Strategic Transport Network Transport Plan 2015

13. The Regional Transportation Strategy recommends a level of investment in the Regional Strategic Transport Network (RSTN) over the 10 years of the Strategy. The Regional Strategic Transport Network Transport Plan 2015 (RSTNTP) will confirm the individual schemes and projects to be implemented and will set out plans for short, medium and longer term proposals.
14. The RSTN of Northern Ireland comprises the complete rail network, five Key Transport Corridors (KTCs), four Link Corridors, the Belfast Metropolitan Transport Corridors, all motorways and the remainder\* of the trunk road network (\*i.e. trunk roads outside of the Belfast Metropolitan Area) – [Figure 1.1 RSTNTP](#).
15. For ease of reference, a copy of the RSTNTP figure noted above can be seen included in this Appendix A.
16. The proposals within the RSTNTP that were considered relevant to the A2 Shore Road Greenisland scheme are mentioned below.
17. Bus measures include general upgrading and support. Specific infrastructure improvements within the A2 Greenisland scheme area are limited to the provision of new buses with improved accessibility for all passengers. There is no specific bus station provision or improvement for integrated services.

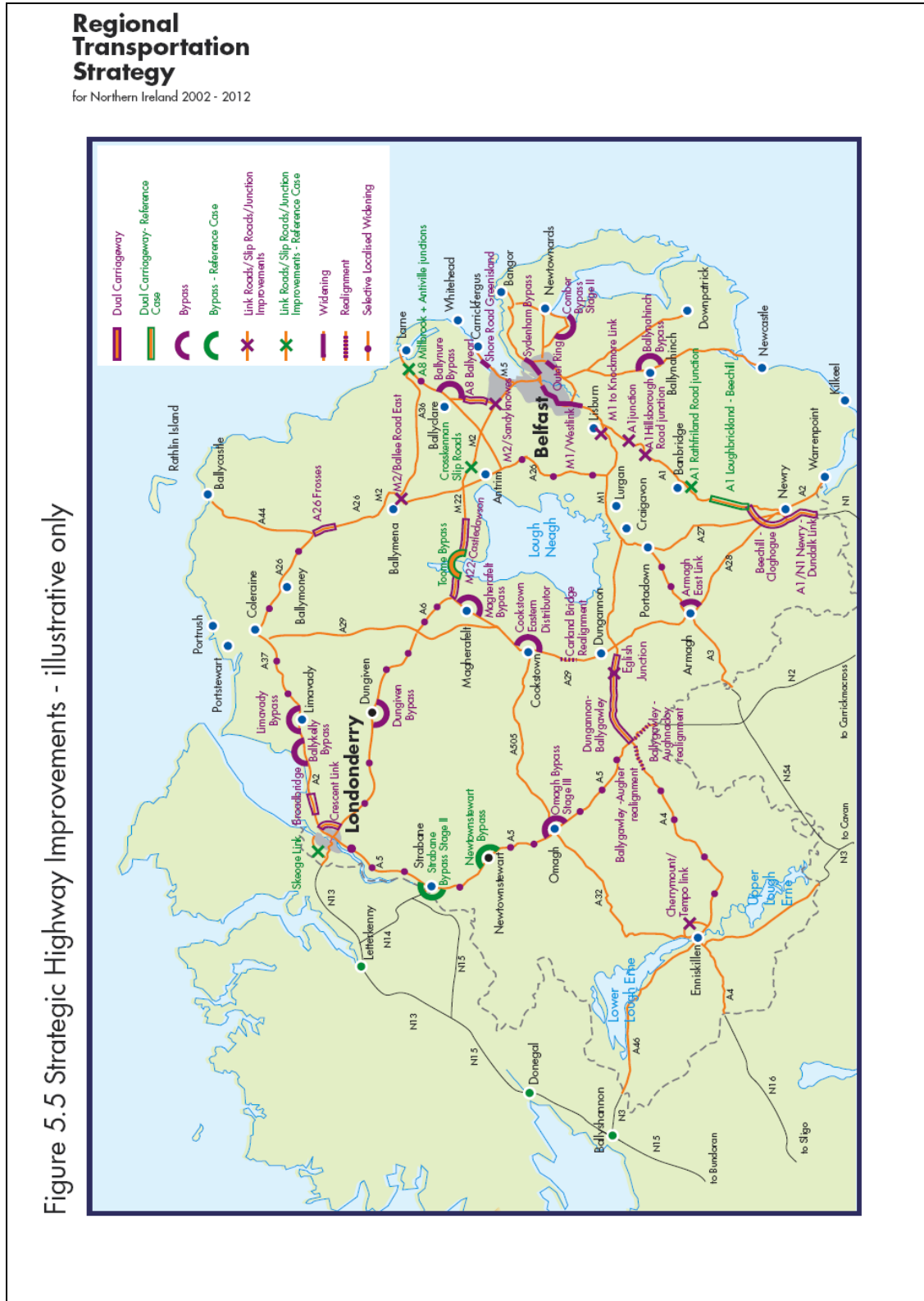
18. Rail measures include:
- the purchase of new train sets,
  - the reconstruction of the Belfast to Larne rail track (this work has already been completed to Carrickfergus),
  - provision of P&R spaces at a number of stations
  - improved accessibility to be compliant with Disability Discrimination Act requirements,
  - improved facilities at stations, real time information etc. and increased frequency.
19. The A2 Shore Road through Greenisland is a strategic road but it is not a regional strategic road. Therefore the widening of Shore Road is not a policy of the RSTNTP but is a policy of the Belfast Metropolitan Transport Plan.

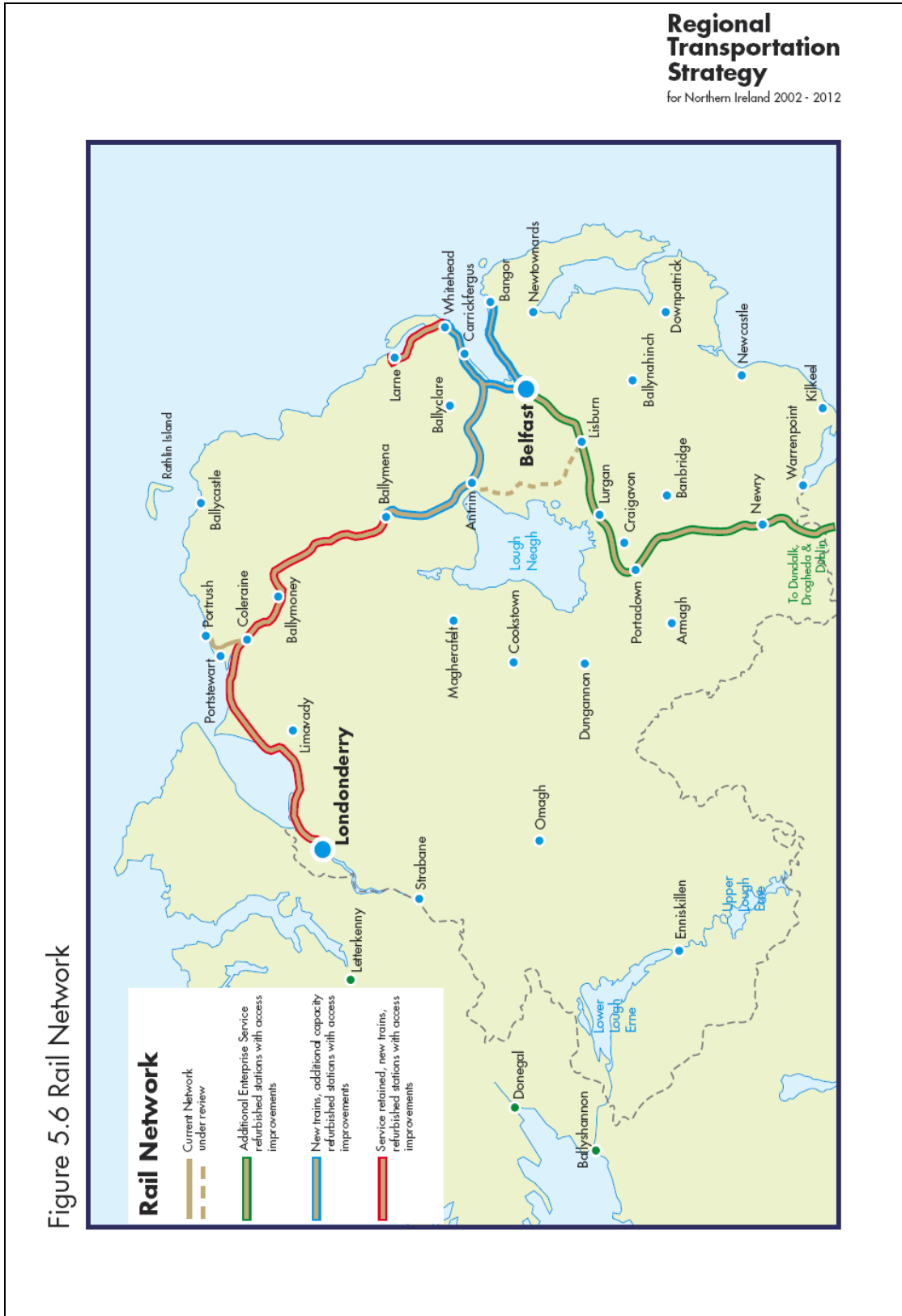
## The Belfast Metropolitan Transport Plan 2015

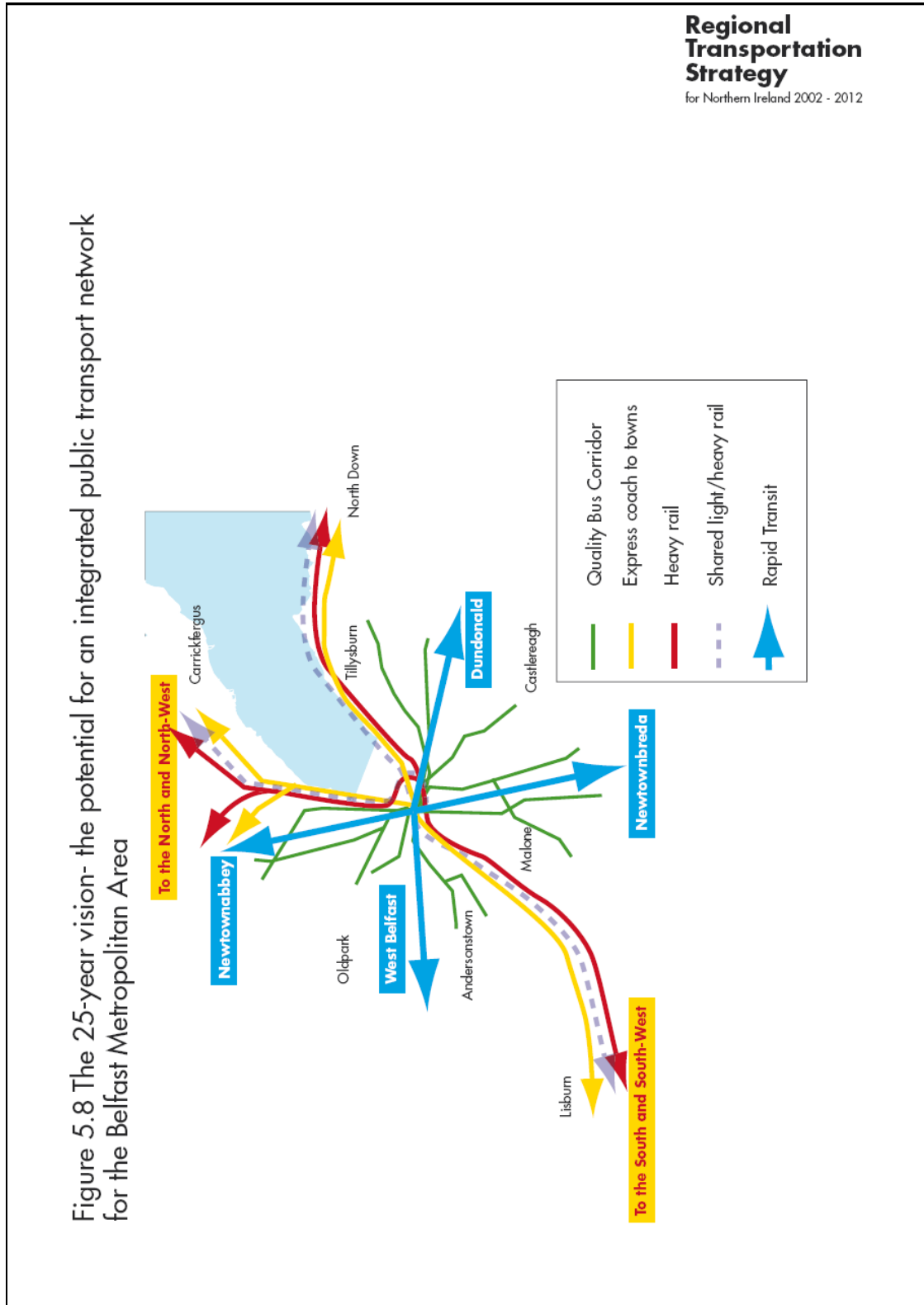
20. The transportation study for the Belfast Metropolitan Area (BMA) has produced the Belfast Metropolitan Transport Plan (BMTP) setting out transport schemes and proposals. These will support the development proposals in the Belfast Metropolitan Area Plan (BMAP). The BMAP and BMTP will provide an integrated approach to future development of the BMA. The BMA covers the 6 District Council areas of Belfast, Carrickfergus, Castlereagh, Lisburn, Newtownabbey and North Down.
21. For clarity, it should be noted that it was determined that the development of the BMTP could not be realistically undertaken without adopting a holistic approach across all modes of transport including the railways and the motorway component of the road network. Consequently the BMTP refers to public transport improvements that are relevant to the BMA.
22. The proposals represent a balanced and multi-modal approach to transport that takes into account the latest UK guidance and experience on sustainable local transport provision. The BMTP will provide for and encourage greater use of public transport and greater levels of walking and cycling whilst also supporting an appropriate level of movement of cars and goods vehicles which realistically will remain the most used form of transport during the Plan period.
23. The BMTP network is defined as a number of main transport corridors, termed Metropolitan Transport Corridors (MTCs). These include Antrim to Belfast MTC (A) and the partially overlapping Carrickfergus to Belfast MTC (F) – [Figure 1.6 BMTP](#).
24. The BMTP addresses a number of problems, many centred on the deteriorating quality of and lack of facilities within the public transport system. In addition, traffic levels on some roads result in localised congestion at peak times.



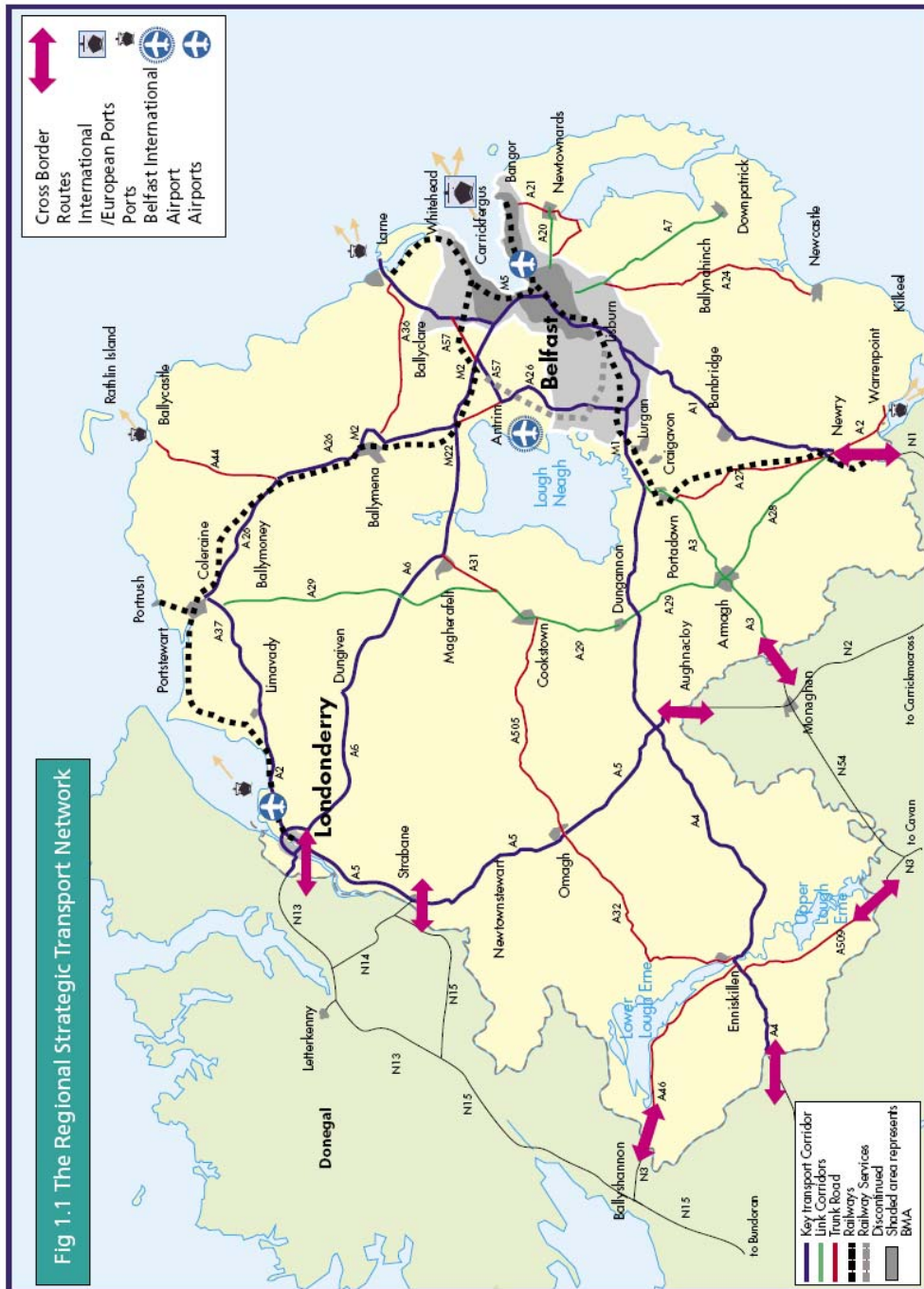
25. Experience from other parts of the UK indicates that congestion levels in the BMA would have to become much worse before they start to undermine people's attachment to the car. The combination of increasing car dependence and deteriorating public transport serves to reduce accessibility for those without access to a car and thereby reduces social inclusion and widens divisions in society.
26. As stated earlier, the BMTP repeats those improvements to public transport listed in the RSTNTP. However, it further includes a Quality Bus Corridor on the Carrickfergus corridor (MTC F) on Shore Road that was not specifically listed in the RSTNTP. [Figure 5.5, BMTP](#), shows the location of the proposed QBCs, and identifies them as either core routes or non-core routes. The A2 Shore Road is identified as a QBC core route between Belfast city centre and the end of the M5 Motorway, from which point it becomes a non-core route until Whiteabbey. Beyond Whiteabbey the A2 is not identified as a QBC, and that includes the section of A2 scheduled for improvement under the proposed scheme.
27. Table 3.1 of the Belfast Metropolitan Transport Plan 2015 lists a number of proposals, also shown in [Figure 6.2 – BMTP](#), including a number of strategic highway network capacity enhancements that are to meet 2025 strategies and that have been identified as priorities in the 2015 Plan.
28. The relevant strategies are:
- to safely and efficiently cater for longer-distance movements to, from and between different parts of the BMA;
  - to support the reduction of traffic and negative impacts of traffic on the non-strategic road network with capacity enhancement schemes to address key bottlenecks and provide a consistent standard of road.
29. The proposals listed under the 2015 Plan include the following:
- 'widening of the A2 at Greenisland on the Carrickfergus corridor (MTC F) from one lane in each direction to two lanes in each direction.'** – [Figure 6.5 BMTP](#).
30. For ease of reference, copies of the BMTP figures noted above are included in this Appendix A.







Regional Strategic Transport  
Network Transport Plan 2015





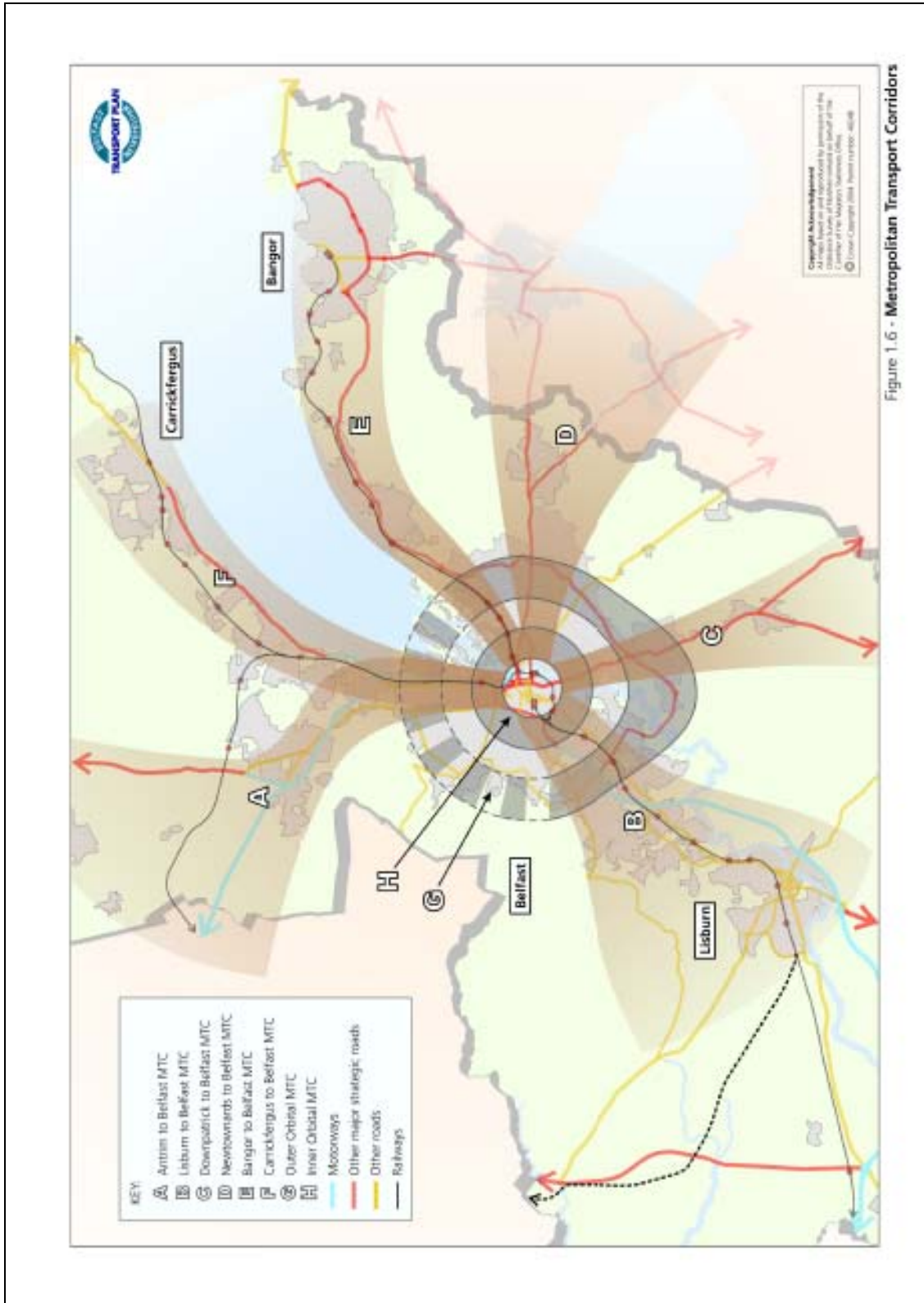


Figure 1.6 - Metropolitan Transport Corridors

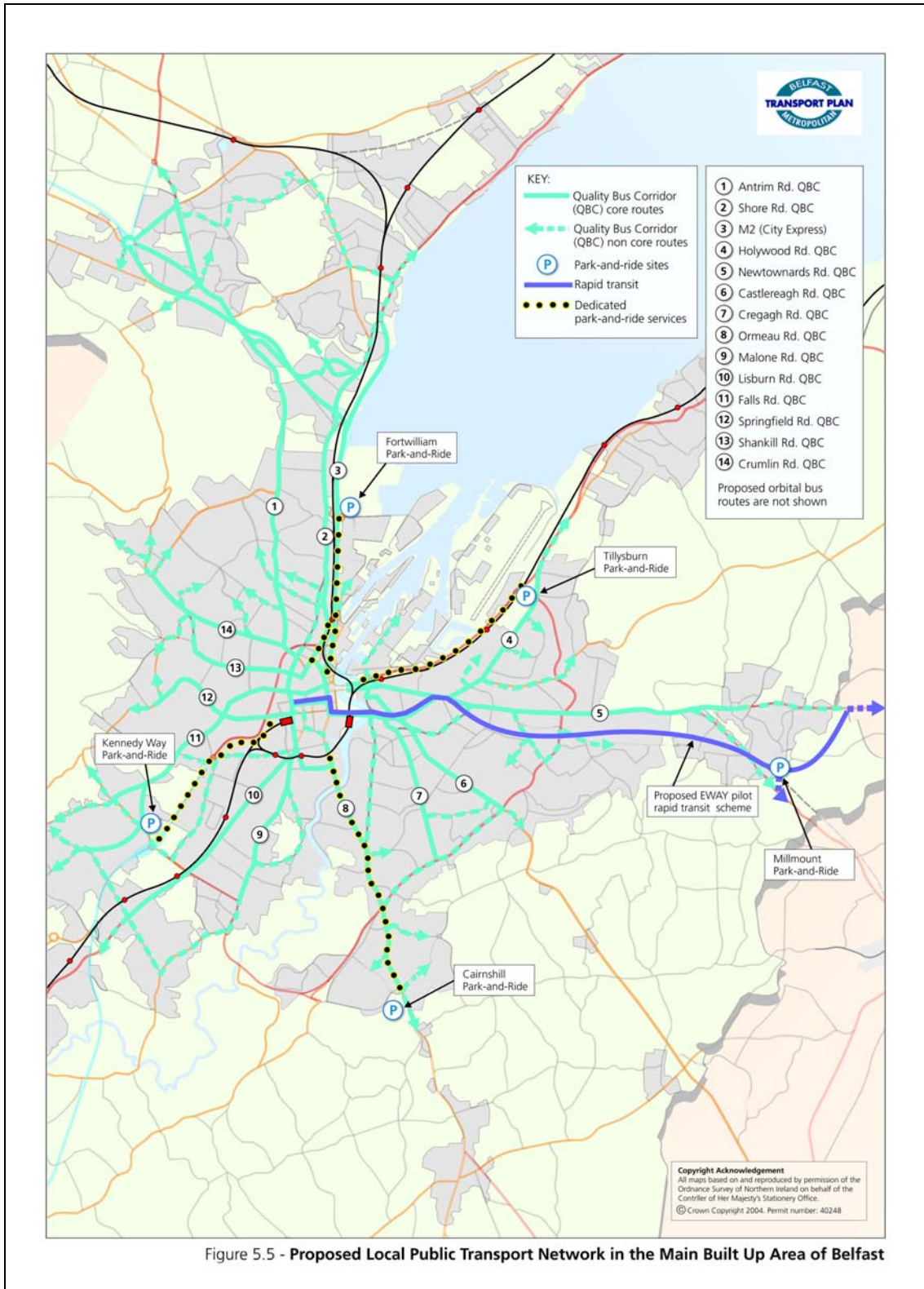


Figure 5.5 - Proposed Local Public Transport Network in the Main Built Up Area of Belfast

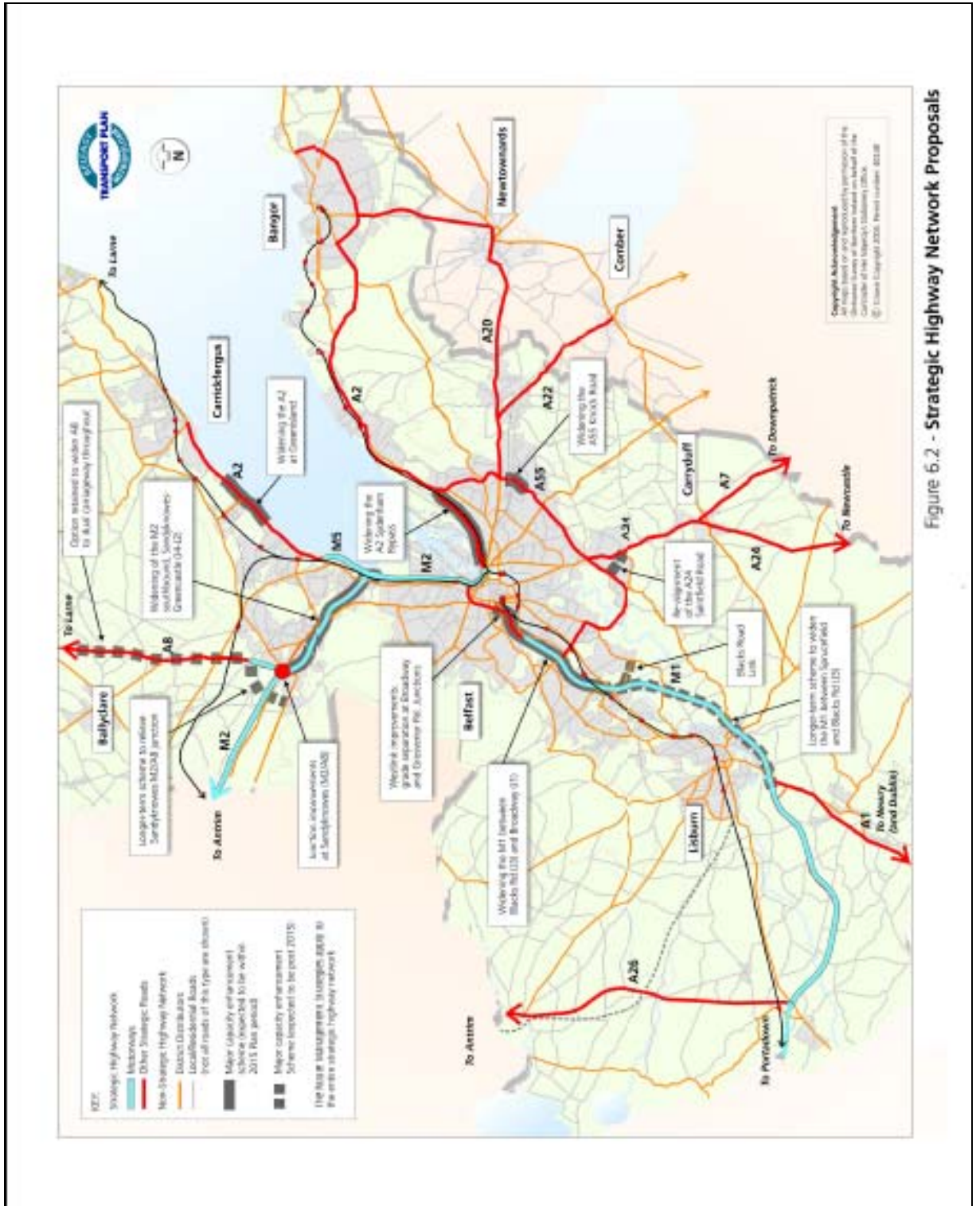
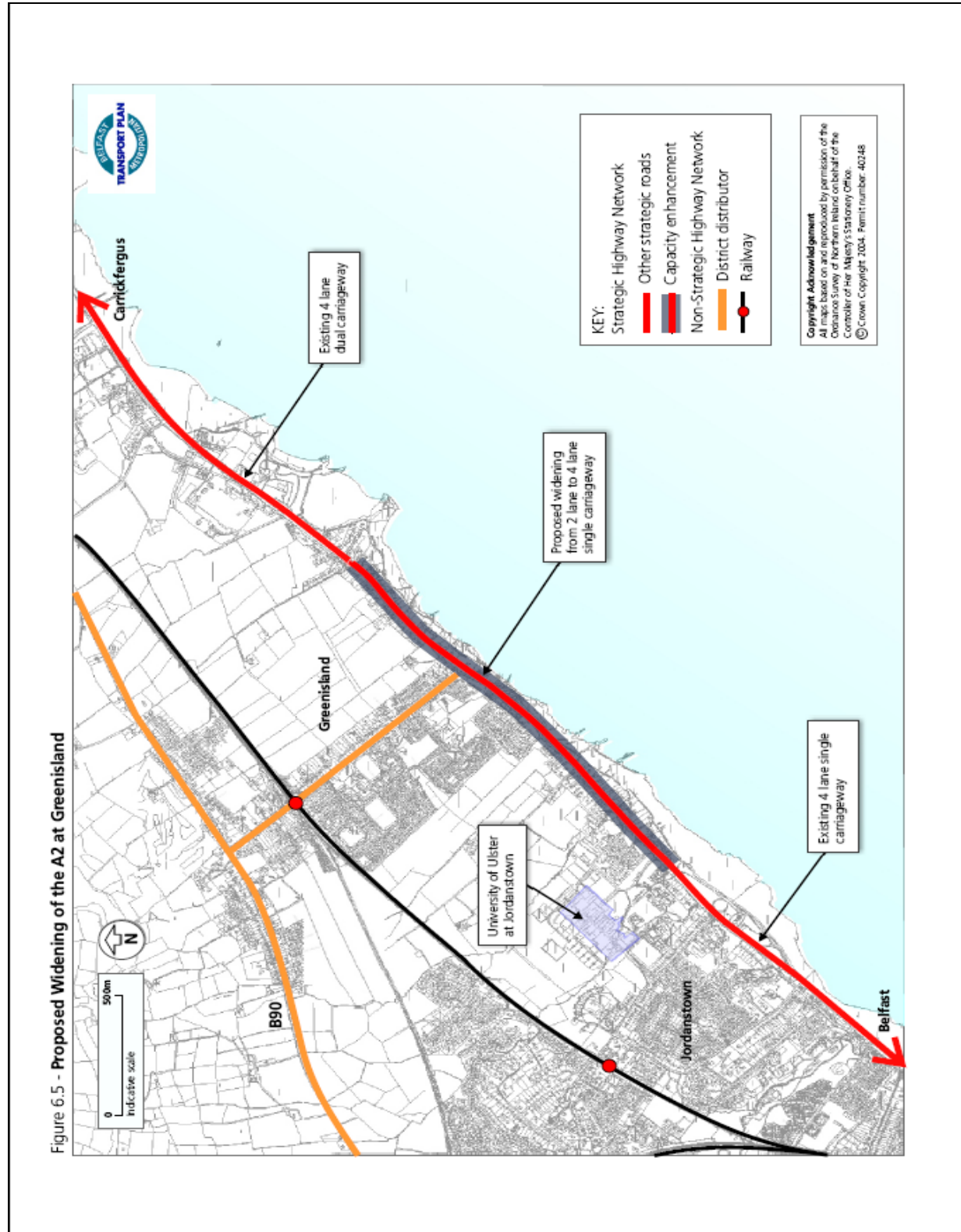


Figure 6.2 - Strategic Highway Network Proposals





## Drawings

### S100532/SK178

Alignment Avoiding Langley Hall Showing High School Entrance

### S100532/SK179

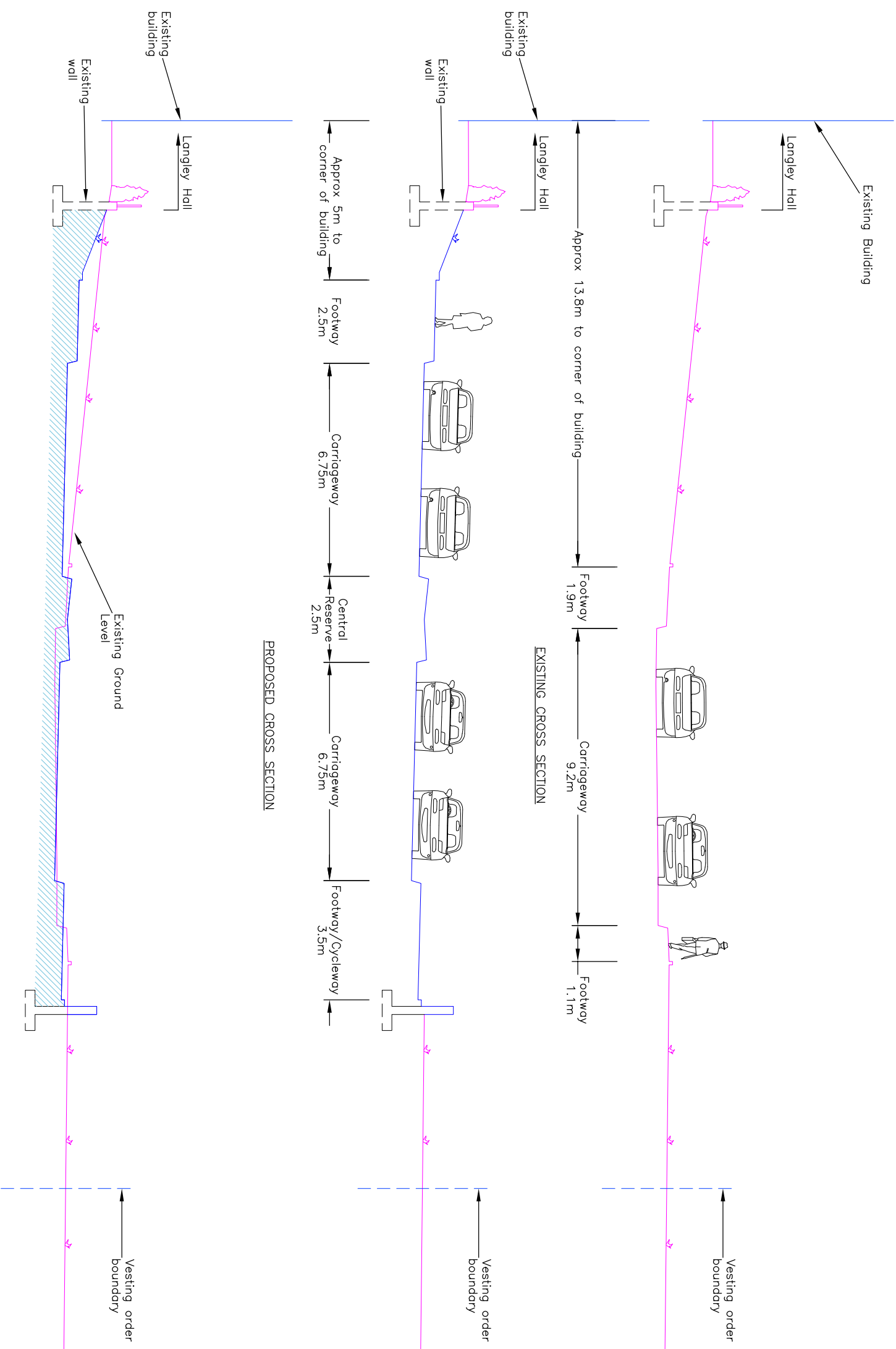
Cross-sections @ 630m Avoiding Langley Hall

### S100532/SK180

Cross-sections @ 600m Avoiding Langley Hall

### S100532/SK184

Alignment Avoiding Langley Hall Court Showing Layby



EXISTING & PROPOSED CROSS SECTION OVERLAY  
 EXISTING AND PROPOSED CROSS SECTIONS THRU CHAINAGE 600m APPROXIMATELY



Revision	Details	By	Date	Surfix

A2 SHORE ROAD GREENISLAND

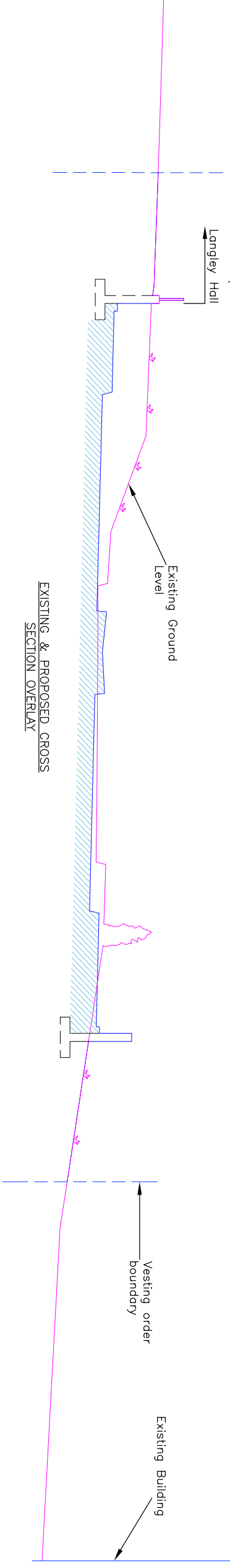
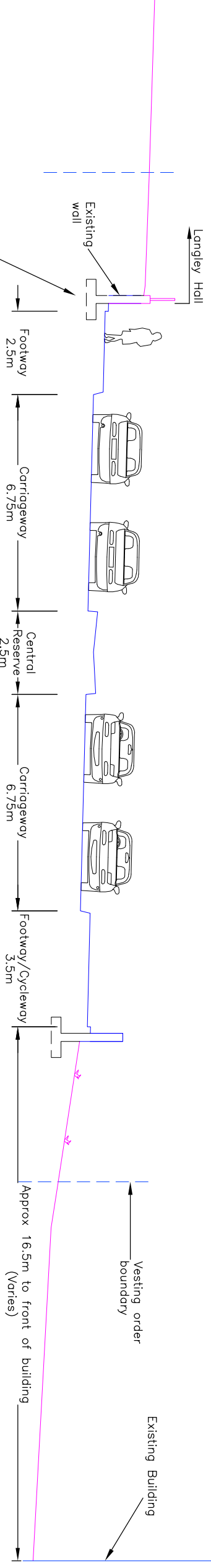
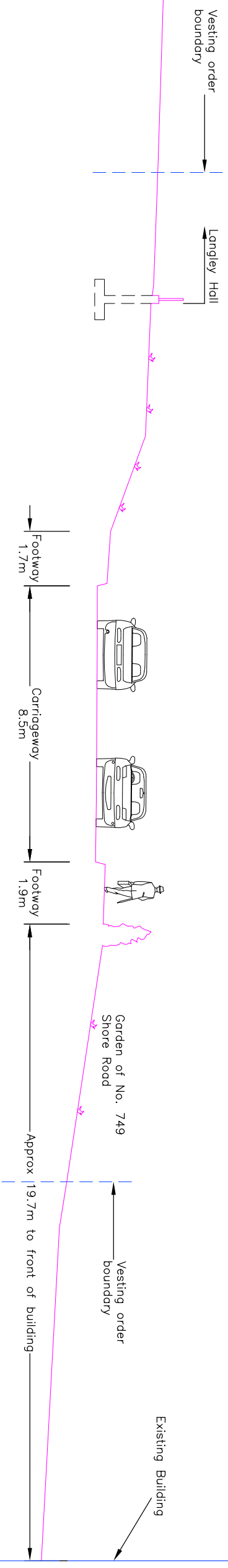
Drawing Title  
 CROSS-SECTIONS @ 600m  
 AVOIDING LANGLEY HALL



Scottish Provident House  
 31-33 Mosley Street  
 Newcastle upon Tyne  
 NE1 1YF  
 Phone 0191 255 8080  
 Fax 0191 255 8081

Drawing Number  
**S100532/SK180**

Scale at A2				1:100
Drm	JLC	Det	Tech Chk	Appd
Chk	RK			GP
			Det Chk	Date
				MAR '08



EXISTING AND PROPOSED CROSS SECTIONS THRU CHAINAGE 630m APPROXIMATELY



A2 SHORE ROAD GREENISLAND

CROSS-SECTIONS @ 630m AVOIDING LANGLEY HALL

Drawing Title



Drawing Number  
**S100532/SK179**

Scottish Provident House  
31-33 Mosley Street  
Newcastle upon Tyne  
NE1 1YF

Scale at A2  
1:100

Phone 0191 255 8080  
Fax 0191 255 8081

Drm	JLC	Det	Tech Chk	Det Chk	Appd
Chk	RK				GP
					Date
					MAR '08

Revision Details	By	Date	Suffix
	CHK		





**ROADS** Service

Revision	Details	By	Date	Surfix

A2 SHORE ROAD GREENISLAND

ALIGNMENT AT LANGLEY HALL  
AVOIDING SCHOONER COURT  
SHOWING HIGH SCHOOL  
ENTRANCE

Drawing Title



Scottish Provident House  
31-33 Mosley Street  
Newcastle upon Tyne  
NE1 1YF  
Phone 0191 255 8080  
Fax 0191 255 8081

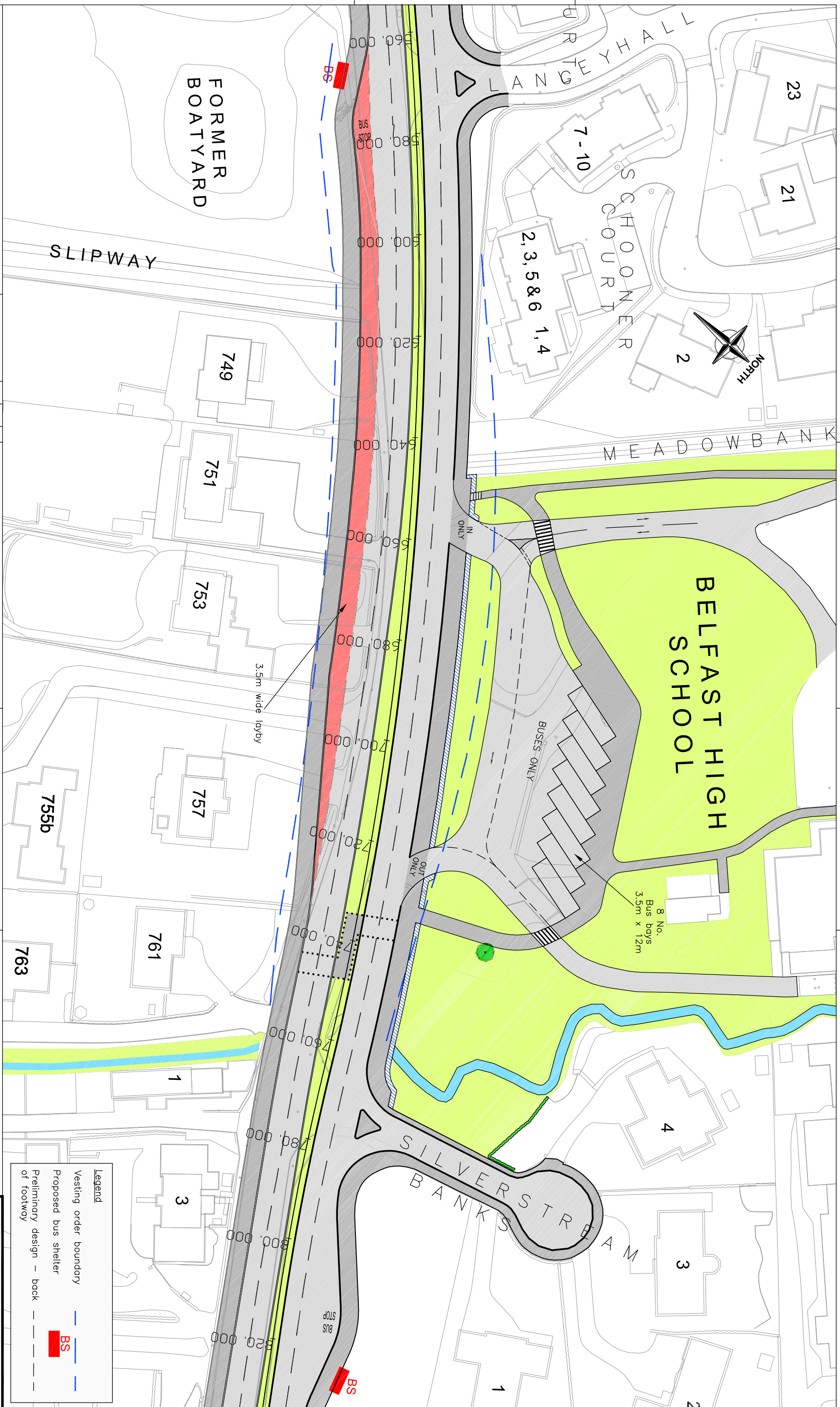
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Drm	Det	Tech Chk	Det Chk	Appd
JLC				GP
Chk	RK			

Legend	
—	Vesting order boundary
—	Proposed bus shelter
—	Preliminary design — back of footway





Revision	Details	By	Date	Surfix

A2 SHORE ROAD GREENISLAND

ALIGNMENT AT LANGLEY HALL  
AVOIDING SCHOONER COURT  
SHOWING LAYBY

Drawing Title



Scottish Provident House  
31-33 Mosley Street  
Newcastle upon Tyne  
NE1 1YF  
Phone 0191 255 8080  
Fax 0191 255 8081

Drawing Number

S100532/SK184

Scale at A2  
1:500

Drn	Det	Appd
JLC		GP
Chk	Tech Chk	Det Chk
RK		
Date	MAR '08	

Legend	
Vesting order boundary	— — — — —
Proposed bus shelter	BS
Preliminary design — back of footway	- - - - -